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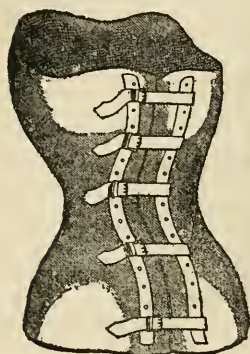
As these cheap and inefficient substitutes are frequently dispensed, instead of the genuine preparation, physicians are earnestly requested when prescribing the Syrup, to write "Syr. Hypophos. FELLOWS."

As a further precaution, it is advisable that the Syrup should be ordered in the original bottles (4/- or 7/-); the distinguishing marks which the bottles (and the wrappers surrounding them) bear, can then be examined, and the genuineness—or otherwise—of the contents thereby proved.

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## Instructions for Measurement, &c.

### **JACKET** (*in cases of slight deformity*).

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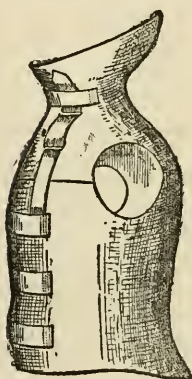
„ waist.

„ hips.

Length from axilla to great trochanter.

In severe angular cases circumference over apex of curve, position of same, and contour should be given; in lateral cases a description of the case.

In all cases it should be stated if for male or female.



### **CERVICAL JACKET.**

Same measurements required, and circumference at neck, and length from neck to axilla.

Any part of the Jacket can in the process of Manufacture be left Soft.



### **CLUB FOOT.**

Circumference below knee.

„ ankle.

„ heel and instep.

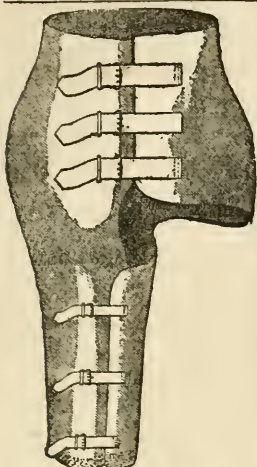
Length from below knee to ground.

„ of foot.

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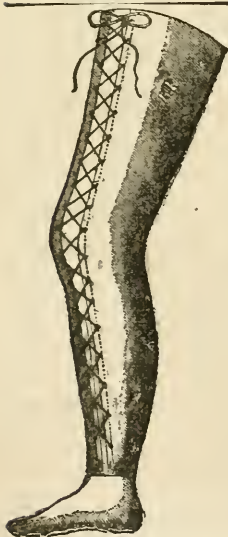


## Instructions for Measurement, &c.

### HIP SPLINT.

Circumference at waist.  
 " hips.  
 " thigh, top of  
 " above knee.  
 Length from waist to groin.

State if for right or left side.



### LEG SPLINT.

Circumference at top of thigh.  
 " above knee.  
 " at knee.  
 " below knee.  
 " calf.  
 " ankle.  
 Length from groin to centre of knee.  
 " centre of knee to ankle.

State if for right or left leg.

When the foot-part is required, also circumference of heel and instep, and length from centre of knee to ground.

If the limb is contracted the contour should be given.

*Splints are also made in Poroplastic for fracture of Inferior Maxilla, Humerus Elbow-Joint, Forearm, Thigh, Knee-Joint, Leg, Shoulder-Joint, Hand, &c.*

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| 2 " ALOES ET ASAFCETIDÆ, - - - | - 0 6     |       |
| 3 " ALOES ET FERRI, - - -      | - 0 5½    |       |
| 4 " ALOES ET MYRRH, - - -      | - 1 1     |       |
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| 13 " HYDRARG., - - -           | - 0 6     |       |
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### Aperient Pills.

|                                       |               |  |
|---------------------------------------|---------------|--|
| 45 R Ext. Aloes Aquosum               | gr. xx.       |  |
| Pulv. Cambogiæ                        | " iv.         |  |
| " Jalapæ                              | " viij.       |  |
| " Colocynth                           | " vi.         |  |
| " Hyd. Subchlor.                      | " iv.         |  |
| " Sapo. Hyspan.                       | " iv.         |  |
| Gingerin.                             | " ij.         |  |
|                                       | Ft. Pil. xij. |  |
| Each Pill contains Calomel, 1-3rd gr. | - 0 6         |  |
| 46, as No. 45, with 1 gr. Calomel,    | - 0 6         |  |
| 47, as No. 45 sine Calomel -          | - 0 6         |  |

|                  |            |       |
|------------------|------------|-------|
| 533 Aloes Barb., | gr. iss.   |       |
| Jalapæ,          | " i.       |       |
| Coloc,           | " i.       |       |
| Cambogiæ,        | " 1-4th    |       |
| Saponis,         | " ss.      |       |
| Ol. Carni,       | " 1-4th    | - 0 5 |
| 40 ALOIN.        |            |       |
| Jalapin,         | aa. gr. i. |       |
| Gingerin,        | " 1-16th   | - 1 8 |

### Antibilious.

|                         |         |        |
|-------------------------|---------|--------|
| 129 PIL. HYDRARG.,      | gr. i.  |        |
| Ext. Coloc. Co.         | " ij.   |        |
| " Hyoscy.,              | " i.    | - 0 11 |
| 130 PIL. HYDRARG.,      | " i.    |        |
| " Rhei Co.              | " iv.   | - 0 8  |
| 865 HYDRARG. SUBCHLOR., | " iss.  |        |
| Pil. Coloc. Co.,        | " iij.  | - 1 2  |
| 10983 PODOPHYLLIN,      | " 1-4th |        |
| Ext. Coloc. Co.,        | " iij.  |        |
| " Hyoscy.,              | " i.    | - 1 2  |

### Cascara Sagrada, Ext.

|                           |               |       |
|---------------------------|---------------|-------|
| 70 EXT. CASCARA SAGRADA,  | gr. ij.       | - 0 6 |
| 71 EXT. CASCARA SAGRADA,  | " iv.         | - 1 0 |
| 72 EXT. CASCARA SAGRADA,  | " ij.         |       |
| " Nuc. Vom. Alc.          |               |       |
| " Belladonnæ,             | aa. gr. 1-8th |       |
| " Gentian,                | gr. ss.       | - 1 0 |
| 435 EXT. CASCARA SAGRADA, | " ij.         |       |
| " Nuc. Vom. Alc.          |               |       |
| " Hyoscyam.,              | aa. gr. 1-8th |       |
| " Gentian,                | gr. ss.       | - 1 0 |
| 461 PIL. COCHLÆ.          |               |       |
| B Pulv. Aloes Cape.,      | " ij.         |       |
| " Cambog.,                | " i.          |       |
| " Jalap,                  | " ss.         |       |
| " Sapo.                   |               |       |
| " Zingib.,                | aa. gr. 1-4th |       |
| Ol. Caryoph.,             | " 1-16th      | - 0 6 |

### Cough Pills.

|                        | gr. iss.       | Per Gross | s. d. |
|------------------------|----------------|-----------|-------|
| 892 PULV. IPECAC. Co., |                |           |       |
| " Gum. Ammon.          | aa. gr. i.     |           |       |
| " Scillæ,              | gr. ss.        |           |       |
| " Saponis,             |                |           |       |
| Antim. Tart.           |                |           |       |
| Morph. Acet.,          | aa. gr. 1-12th | 0 9       |       |
| 893 PULV. IPECAC.      |                |           |       |
| " Scillæ,              | aa. gr. 3-4th  |           |       |
| " Capsici.             |                |           |       |
| " Opii,                | aa. gr. 1-4th  |           |       |
| " Gum. Ammon.          |                |           |       |
| Ext. Conii,            | aa. gr. i.     | - 0 8     |       |

### Digestive Pills.

|                        |          |        |
|------------------------|----------|--------|
| 60 B Bismuth. Subnit., | gr. ij.  |        |
| Sodii Bicarb.,         | " i.     |        |
| Ext. Nucis. Vom.       | " 1-10th |        |
| Gingerin,              | " 1-4th  | - 0 10 |

### Ergotin.

|                     |            |       |  |
|---------------------|------------|-------|--|
| 98 ERGOTIN.         |            |       |  |
| Ferri Sulph. Exsic. |            |       |  |
| Ext. Hellebor.      |            |       |  |
| " Aloes Soc.,       | aa. gr. i. |       |  |
| Ol. Sabina,         | gtt. ss.   | - 1 2 |  |

### Gout.

|                         |            |        |  |
|-------------------------|------------|--------|--|
| 472 EXT. COLCHICI,      | gr. 1-4th  |        |  |
| Ammon. Carb.,           | " 1-4th    |        |  |
| Guaiaci Res.            | " iv.      |        |  |
| Pulv. Opii,             | " 1-8th    | - 0 9  |  |
| 476 EXT. COLCHICI ACET. |            |        |  |
| Pil. Hydrarg.           |            |        |  |
| Ext. Aloes. Socot.      |            |        |  |
| Pil. Rhei Co.,          | aa. gr. i. | - 0 10 |  |

### Hydrarg. c. Creta.

|                        |            |       |  |
|------------------------|------------|-------|--|
| 116 HYDRARG. c. CRETA, | gr. iij.   | - 0 9 |  |
| 117 HYDRARG. c. CRETA, |            |       |  |
| Pulv. Ipecac. Co.,     | aa. gr. j. | - 0 9 |  |

### Pennyroyal Pills.

|                      |            |       |  |
|----------------------|------------|-------|--|
| 1150 OL. PULEGII,    | gtt. 1-8th |       |  |
| Pil. Aloes et Ferri, | gr. iv.    | - 0 8 |  |

### Phosphorus.

|                     |            |       |  |
|---------------------|------------|-------|--|
| 170 PHOSPHORI PUR., | gr. 1-30th | - 1 6 |  |
| 171 PHOSPHORI PUR., | " 1-50th   | - 1 6 |  |
| 173 PHOSPHORI PUR., | " 1-50th   |       |  |
| Quininæ Sulph.,     | " i.       | - 2 0 |  |
| 177 PHOSPHORI PUR., | " 1-50th   |       |  |
| Ferri Redacti,      | " iij.     |       |  |
| Quininæ Sulph.,     | " ss.      |       |  |
| Strychninæ,         | " 1-50th   | - 2 0 |  |

### Podophyllin.

|                  |           |       |  |
|------------------|-----------|-------|--|
| 187 PODOPHYLLIN, | gr. 1-4th | - 0 6 |  |
| 188 PODOPHYLLIN, | " ss.     | - 0 8 |  |

### QUININE.

|                     |         |        |  |
|---------------------|---------|--------|--|
| 203 QUININ: SULPH., | gr. ss. | - 0 4½ |  |
| 204 QUININ: SULPH., | " i.    | - 0 5½ |  |
| 205 QUININ: SULPH., | " ij.   | - 0 9  |  |
| 206 QUININ: SULPH., | " iij.  | - 1 1  |  |

### Tic Pills.

|                   |             |       |  |
|-------------------|-------------|-------|--|
| 1155 QUINETI.     |             |       |  |
| Ferri Sulph.,     | aa. gr. ss. |       |  |
| Ext. Belladonnæ,  | gr. 1-4th.  |       |  |
| " Colch. Acetat., | " ss.       |       |  |
| " Hyoscy.         |             |       |  |
| Camphoræ,         | aa. gr. i.  | - 1 0 |  |

### Tonic Pills.

|                         |                |        |  |
|-------------------------|----------------|--------|--|
| 109 PIL. FERRI (BLAUD), | gr. iv. and v. | - 0 4½ |  |
|-------------------------|----------------|--------|--|

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Authors of "Original Communications" will please consider themselves bound in honour to a strict observance of this understanding.

Authors of Communications are requested to write the prescriptions in their paper in full, and in English.

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AMERICAN Books and Journals often come to hand with such an amount of Charges on them, that we cannot release them. It is requested that all communications from the United States shall be forwarded to Mr. JOHN WILEY, *New York* ; or Mr. HENRY C. LEA, *Philadelphia*, directed to us, to the care of Messrs. TRÜBNER and Co., *London*.



# BOOKS, PAMPHLETS, AND PERIODICALS RECEIVED—APRIL, 1892.

1. Index-catalogue of the Library of the Surgeon-General's Office, U.S.A. Vol. XII. Reger-Shuttleworth. Washington. 1891. Quarto. Pp. 1604.

2. Transactions of the American Ophthalmological Society. Twenty-seventh Annual Meeting. Washington, D.C. 1891. Hartford. 8vo. Pp. 241.

3. The New York Journal of Gynecology and Obstetrics. Vol. II. No. 2. February, 1892. New York: Fairchild & Co.

4. Annales de la Policlinique de Lille. No. 1. Janvier, 1892. Lille: Le Bigot Frères. 1892. 8vo. Pp. 43.

5. World Wide Missions. Vol. IV., No. 7. February, 1892. New York and Chicago.

6. Revue Général de Médecine, de Chirurgie, et d'Obstétrique. Première Année. Nos. 8, 9, 10, 11, 12. 1892. Paris: O. Doin.

7. The Life-History of Tennessee C. Claflin (now Lady Cook). London. 1892. Pp. 48.

8. Bulletin of the Johns Hopkins Hospital. Volume III., No. 19. Baltimore. January-February, 1892.

9. International Medical Magazine. Vol. I., No. 1. February, 1892. Philadelphia: J. B. Lippincott Company. 8vo. Pp. 112.

10. The Medical Bulletin. Vol. XIV., No. 2. February, 1892. Philadelphia: F. A. Davis & Co.

11. Scarborough Rural Sanitary Authority. Annual Report for the Year 1891. By R. Cuff, M.B. (Lond.), M.R.C.S. (Eng.), Medical Officer of Health. Scarborough: John Haggard. 1892. Pp. 18.

12. The New Sydenham Society. Vol. 136. Ewald's Lectures on Disorders of Digestion. Translated by Dr. Saundby. London: H. K. Lewis. 1892.

13. The New Sydenham Society. Vol. 137. Acromegaly. Essays by Dr. Pierre Marie and Dr. Souza-Leite. London: H. K. Lewis. 1892.

14. The New Sydenham Society. Vol. 138. Lexicon of Medical Terms. Part XVIII. London: H. K. Lewis. 1892.

15. Manual of Autopsies. By I. W. Blackburn, M.D. Philadelphia: P. Blakiston, Son, & Co. 1892. 8vo. Pp. 84.

16. The Climatologist. Vol. II., No. 1. February 15, 1892. Philadelphia: W. B. Saunders.

17. Microscopical Observations on the Hæmatozoon of Malaria. By Surgeon Patrick Hehir, M.D., F.R.C.S.E. Pp. 27.

18. Revue internationale de Rhinologie, Otologie, et Laryngologie. Deuxième Année. No. 2. Paris: Marcel Nátier.

19. Catechism Series. Physiology: Part I. Chiefly Histology. Edinburgh: E. & S. Livingstone. 1892. 8vo. Pp. 64.

20. The Dietetic Value of Bread. By John Goodfellow, F.R.M.S. London: Macmillan & Co. 1892. 8vo. Pp. 328.

21. The Medical Annual and Practitioner's Index. 1892. Tenth Year. Bristol: John Wright & Co. 1892. 8vo. Pp. 783.

22. The National Bulletin. Nos. 69, 70, and 71. Tuesday, March 8th, 15th, and 22nd, 1892.

23. Transactions of the Association of American Physicians. Vol. VI. Philadelphia. 1891. 8vo. Pp. 319.

24. Obstetric Problems. By D. T. Smith, M.D. Louisville: John P. Morton & Co. 1892. Pp. 60.

25. Archives Cliniques de Bordeaux. Première Année. No. 1. Janvier, 1892. Bordeaux: Feret et Fils. 1892. Pp. 48.

26. Cocoa: all about it. By Historicus. London: Sampson Low, Marston, & Company. 1892. 8vo. Pp. 114.

27. Die Behandlung der Tuberkulose mit Tuberkulocidin. Von Professor Dr. E. Klebs in Zürich. Zweite Auflage. Hamburg und Leipzig: Leopold Voss. 1892. Pp. 39. [Duplicate copies.]

28. The Corpuscle. February, 1892. Chicago, Ill.: Anderson & Dahl.

29. Medico-Chirurgical Transactions. Vol. 74. London: Longmans, Green, & Co. 1891. 8vo. Pp. 593.

*Books, Pamphlets, and Periodicals received—(continued).*

30. Bulletin trimestriel des Publications Nouvelles de la Librairie Félix Alcan. No. 79. Février, 1892. Paris. Pp. 16.

31. A Treatise on Diseases of the Nose and its accessory Cavities. By Greville MacDonald, M.D. Lond. Second Edition. London: Alexander P. Watt. 1892. 8vo. Pp. 381.

32. Braithwaite's Retrospect of Medicine. Vols. CI.-CIV. 1890 and 1891. London: Simpkin & Co.

33. Twelfth Annual Report of the Local Government Board, 1890-91. London: Eyre & Spottiswoode. 1891. 8vo. Pp. xxi. + 296.

34. The Tocsin. March, 1892. Vol. IV. No. 30.

35. The Pharmaceutical Journal of Australasia. Vol. V., No. 1. January 25, 1892. [Duplicate copies.]

36. Concerning the Kinsmen and Friends of Insane Patients. By Frank Ashby Elkins, M.B. Reprint. Pp. 7. Edinburgh.

37. Fourteenth Annual Report of the Presbyterian Eye, Ear, and Throat Charity Hospital, Baltimore, for 1891. Baltimore: Guggenheimer, Weil & Co. 1892. Pp. 16.

38. The Journal of the British Dental Association. Vol. XIII. No. 3. March 15, 1892. London: Baillière, Tindall & Cox.

39. Reasons why the office of Coroner should be held by a Member of the Medical Profession. By Frederick W. Lowndes, M.R.C.S. Eng. London: J. & A. Churchill. 1892. Pp. 34.

40. Bacteriological Diagnosis. By James Eisenberg, Ph.D., Vienna. Translated by Norval H. Pierce, M.D. Philadelphia and London: F. A. Davis & Co. 1892. Pp. 184.

41. The Post-Graduate. Vol. VII., No. 4. New Series. March, 1892. New York.

42. Hypnotism: simplified and explained. By Joseph Darby. London: Simpkin, Marshall, Hamilton, Kent, & Co. 1892. Pp. 55.

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OF

## MEDICAL SCIENCE.

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# A CHAT ON MALT EXTRACTS,

AND

The reason why KEPLER EXTRACT is preferred by the Profession.

"MALT as a food has a great future before it." Thus, in 1885, wrote the late Dr. MILNER FOTHERGILL, and events have abundantly proved the truth of this prophecy. But although the use of Extracts of Malt has since become very general, the results of its employment have too often been disappointing. The cause of this failure may in some instances have been a faulty method of administering the article, but in the great majority of cases it is more probably to be accounted for by the use of a faulty Malt Extract. Dr. MURRELL, in *The Lancet*, has written:—"Extract of Malt is of such inestimable value in the treatment of all wasting diseases, both of children and adults, that any method which will help to secure the employment of good and reliable specimens must of necessity be of interest. I examined in all eleven specimens of Extract of Malt. Of the eleven, there were only two which under the conditions I have indicated would transform completely all the starch in thirty minutes, and of these one was more than three times as active as the other. Many of the specimens were of very poor quality, and possessed little or no diastatic power." Again, the late Dr. FOTHERGILL, in the *Medical Press* for 1881, wrote:—"Some Malt Extracts are raised to the boiling-point in their preparation, and such are rendered useless as artificial digestive agents, because their diastase has been killed by so doing. In order to secure the action of vegetable diastase it is necessary to use a preparation of Malt Extract which has not been heated to more than 140° F. in its manufacture."

These facts indicate the cause of failure attending the use of many malt extracts, as they account also for the great success and deserved popularity of Kepler Malt Extract. For Kepler Malt Extract is prepared on the scientific lines above laid down, by evaporation *in vacuo* at a low temperature, and thus the activity of the diastase remains entirely unimpaired, and its utility as a digestive agent is preserved. Kepler Malt Extract is manufactured from the finest barley, and barley only, and besides being rich in active diastase, contains, in addition to a considerable proportion of the albuminates of the barley, a large amount of predigested starch (dextrine and maltose) and phosphates. Kepler Malt Extract, it will thus be seen, provides a most valuable and nutritious food and is a powerful agent for the digestion of farinaceous materials.

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# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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APRIL 1, 1892.

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### PART I.

### ORIGINAL COMMUNICATIONS.

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ART. XII.—*Dystocia due to a Cyst in the Liver of a Fœtus.*<sup>a</sup> By  
WM. S. BAGOT, M.D. Univ. Dubl., L.M., &c.; Ex-Senior  
Assistant Physician to the Rotunda Hospital.

THE specimen which I have the honour of submitting to the notice of the Academy is, to my mind, one of extreme interest, not only from a pathological, but also from an obstetrical, point of view; for the records of cases where congenital cysts of any size have been found in the liver are very rare, and still rarer are records of such, or indeed of any tumour of the foetal liver causing dystocia.

The history of the case, from which this specimen was taken, is as follows:—

About 6 a.m. on May 12, 1890, word was brought to me, then Senior Assistant Physician to the Rotunda Hospital, that two of the intern students were in attendance on a woman in the Extern Maternity Department. It was her second pregnancy, her first having terminated normally at full time. She had now been in labour thirteen hours. The head of the child had been born immediately after the arrival of the students; but the birth of the body was delayed, and, though they had tried both expression and traction, they were unable to complete its delivery. I accordingly hurried to their assistance, and found, as they had reported, the head, somewhat smaller than normal, completely born, and the child apparently dead, the delay in the delivery having proved fatal. The woman stated that she was about 8½ months pregnant. Her

<sup>a</sup> Read before the Section of Obstetrics, Royal Academy of Medicine in Ireland, on Friday, Nov. 27th, 1891.

body was covered with a papular eruption of syphilitic character. I could elicit no history of any specific sores having been on the genitals. I then administered chloroform, and proceeded to palpate her abdomen. I found the uterus much larger, and more tense than is usual at full term, though some of the liquor amnii must have escaped on the rupture of the membranes, and on percussion a very distinct fluctuation thrill could be obtained.

The back of the child could with difficulty be mapped out, looking forward, and to the left in the first position. It at once occurred to my mind that I had to deal with a case of hydrops amnii, complicated by some abnormality of the fœtal abdomen, such as ascites, or an ovarian tumour, &c. Accordingly, after a thorough disinfection, I passed my hand up posteriorly along the anterior surface of the child, and on reaching the uterine cavity, which still contained an abnormally large quantity of liquor amnii, I found, in accordance with my expectations, that the abdomen of the fœtus was enormously distended and elastic. I now tried to let off as much of the liquor amnii as possible, but the attempt met with little success, for the great elastic belly of the fœtus filled out the lower uterine segment, acting like a ball valve. I then perforated the child's abdomen close to the xiphoid cartilage by means of a Smellie's scissors, after which a great quantity of clear yellow fluid poured out, mixed with the liquor amnii, which now came away freely. The abdomen having collapsed, I easily delivered the child, a male, the placenta following almost immediately. After a great deal of trouble we succeeded in persuading the female relatives present to allow us to remove the child. The husband, luckily, was absent. On reaching the Rotunda Hospital I stitched up the hole made by the perforator, and by means of an aspirator filled the abdomen, from which all the fluid had drained away. I had to inject 60 ounces of fluid before it assumed its original degree of tension.

The following measurements were then taken:—Length of fœtus, 45 cm.; girth at level of umbilicus, 59·75 cm.; distance from ensiform cartilage to pubes, 39·5 cm.

I then photographed it, unfortunately not very successfully, owing to haste, for the father having returned, and found that the child had been removed, had followed us and demanded its restoration. Finding it was impossible to pacify him, we hastily performed the autopsy. On opening the abdomen it was found that the chief abnormality existed in the liver. The rest of the viscera were normal, as far as could be made out from a hurried examination of them *in situ*, with the exception of the kidneys, which were small. Accordingly we removed the liver and kidneys for further investigation, and restored the body to the relatives.

On examining the liver we found the right lobe comparatively normal, perhaps slightly small, and on the under-surface near the right edge a



small lobe marked with parallel ridges. The gall bladder was absent, and the lobus quadratus consequently not marked off. Hepatic artery and vena portæ normal. Hepatic duct present, but rather small. It was not possible to trace a branch to the left lobe with any certainty, but it was probable that the left duct was torn from its connections on account of the haste with which the autopsy had to be performed. The duodenal end of the duct was not observed.

The whole of the left lobe was converted into a large simple cyst, capable of containing 48 ounces of fluid. It was smooth on its surface and marked by ramifications of vessels and ducts. The inner surface of the cyst wall was also smooth, except that it was covered by a whitish film, which could easily be stripped off. The fluid from the cyst, having all drained away at the time of perforation, could not be examined. Histologically the hepatic tissue was normal. The wall of the cyst was formed of two layers, about equal in thickness. One next the cavity of the cyst consisted of a rather dense fibrous connective tissue; and outside this, over the greater part of the cyst wall, a layer of equal thickness, consisting of hepatic tissue. Where this is absent, its place is taken by large vessels and ducts. Near the junction of the two layers numerous small ducts could be seen; but these in no case at all approach the cavity of the cyst, they open into the large ducts, mentioned above as accompanying the vessels. No epithelium could be demonstrated lining the interior of the cyst. The kidneys, though very small, were normal in structure.

Now, on referring to the literature on the subject, I can find records of only two cases, which appear to me to bear any points of resemblance to that which I have just described.

The first, reported by Dr. Witzel (*Centralblatt für Gynäkologie*, No. 24, 1880), where he records a case, which occurred in the obstetrical polyclinic of Prof. Gusserow. During the summer semestrium Dr. Witzel observed a woman, aged thirty-six years, who was in labour. It was her second pregnancy. Some years previously she had borne a normal child at full term. The midwife not being able to determine the presentation, sent for his assistance. External examination showed that there existed a longitudinal lie of the child, and he could feel on the left side a rounded part; but above the symphysis pubis no hard tumour corresponding to the head could be found; accordingly he thought it was most probably a breech presentation. On examining *per vaginam* he found a soft part, and towards the left a pedunculated sac, bigger than a walnut. Behind this there was an opening, into which the tip of the finger could be put. On one side of this

opening he could feel a resistant ridge, and behind this a resistance covered by soft parts. He consequently diagnosticated it as a second position of the breech. No progress was made in the labour during the next eighteen hours. After this, owing to some strong pains, the child was born so far that a malformed head was seen in the vulva. While the patient's husband was bringing word to Dr. Witzel, a neighbouring doctor was called in, who tried to effect delivery by pulling on the head till he lacerated the soft parts of the neck as deeply as the spine, and almost completely separated one arm. Dr. Witzel, on his arrival, seeing the malformation of the head, made further examination with the patient under chloroform. He could still feel the rounded part in the fundus of the uterus; it seemed to correspond to a second head. However, on examining *per vaginam*, and passing up his hand, he found that this was in reality the short legs lying close to one another, and he could feel the belly blown out like a balloon. He therefore decided to perforate it. Upon this being done, three litres of yellow fluid poured away, and the child was then easily delivered.

The examination of the child showed the following:—

Rudimentary external female genitals.

Thick short upper extremities, with six fingers on each hand, and rudiment of a seventh on the left.

Six toes on each foot; genu varum and pes varus of both extremities; hemicephalous, greater part of the skull being absent, presenting pedunculated membranous sac; palpebral fissures small; orbits small; no eyeballs; nose flat; complete absence of intermaxillary bone; situs inversus viscerum totalis; cystic liver, the left lobe being, with the exception of a small portion of the anterior margin, completely converted into a cyst with irregular surface. This cyst communicated by an opening, admitting two fingers, with a smaller one in the right lobe; the other lobes were normal; the gall-bladder was empty. The cystic duct was solid, while the common duct, which opened into the cyst in the right lobe, was dilated to the thickness of one's thumb, and ended blindly towards the duodenum; but in the duodenum the usual papilla could be made out. There was a Meckel's diverticulum. Each kidney was the size of a man's fist, and cystic, with small cysts the size of a pea; the ureters were not dilated; the bladder was empty. There existed other malformations, which I need not delay to describe.

The second case, reported by Lomer (*Virchow's Archiv*, 99), I think worthy of note from the fact that the fœtus presented signs

of congenital syphilis, though the cystic liver did not cause any obstacle to delivery.

Here there was obliteration of the cystic and right hepatic ducts. The gall-bladder was collapsed and obliterated; the left lobe of the liver was normal; the right lobe was rough, convoluted, like a brain, and degenerated, with cysts in it; a smooth cyst projected from the surface of the liver; it was the size of a cherry, and communicated with other cysts in this mass of scar tissue; the left duct, the hepatic artery, and the vena portæ were normal; the cysts contained a yellow fluid; the fœtus was macerated, and its bones presented syphilitic lesions. Lomer considered the malformation to be due to a primary developmental defect, or else to syphilitic perihepatitis.

Turning now to the obstetrical bearing of this case, which, though not of such general interest, is none the less of great importance, I find that the records of cases where tumours of the liver have acted as obstacles to delivery are extremely few. Winkel, in his "Text-Book of Obstetrics," one of the most recent and complete works on the subject, states that "the description of those tumours of the liver, which have been causes of delay in or obstacles to delivery, is somewhat defective." He mentions records of four cases—viz., (1) Haase (*N. Z.* XI., 262); (2) Müller (*Hohl*, p. 286); (3) Nöggerath (*Deutsche Klinik*, 1854, No. 44; *Wochenschr.* IV., 458); (4) Schlesinger (*Hohl*, p. 289). The first three, according to Winkel, "resolve themselves into either hepatic physconia, or a lymphatic tumour of the liver." In Nöggerath's case the liver was the seat of a congenital carcinoma, and weighed  $2\frac{1}{4}$  lbs; it measured 8.75 inches in width, 3 inches in thickness, and 6 inches in height. The liver in Müller's case, a lymphatic tumour, weighed 4 lbs. These four cases, together with Witzel's, which has been overlooked by Winkel, and the case which I now report, would amount to but five cases in which I have been able to find records of any obstacle being offered to delivery by a tumour of the liver. The head of the child presented in all the cases, with the exception of that reported by Haase. In it the fœtus presented obliquely, with the head towards the left, and the cord and left arm prolapsed. The liver in this case weighed one pound. The child was a girl, 19.5 inches long, and 9 lbs. in weight.

ART. XIII.—*A Case of Opium-Poisoning.*<sup>a</sup> By JOHN J. BURGESS, F.R.C.S.I., L.R.C.P.I.; late Assistant Surgeon, Richmond Hospital, Dublin.

WHEN we consider that opium and its alkaloid is the most frequently used drug in medical practice, and when we see, on the one hand, the idiosyncrasy which some have for its smallest dose, and, on the other, the facility with which the general public can procure from any chemist large quantities of the tincture, we must be astonished at the comparatively few cases of poisoning which are reported.

Laudanum is sold to any adult person by the apothecary, provided he gives a satisfactory explanation there and then of the use he intends to make of it. Although it is out of the province of this paper to enter into the legal question of the sale of poisons or to suggest a remedy, still I feel bound to allude to the practice as highly dangerous to society which puts into the hands of the dipsomaniac or melancholiac an instrument capable of producing such disastrous consequences.

The case I am now going to bring before the notice of this Section is one of acute poisoning by opium, and I would not take up the time of the Academy were I not convinced that there is something to be learned from the details of treatment in each case of this kind, and that we may profit by each other's experiences in order to be prepared when called on, as each one of us may be at any hour of the day or night, to take up charge of a similar unhappy case.

CASE.—A. B., aged thirty years, of good physique, but intemperate habits, was observed by a servant to drink a two-ounce measure-glassful of laudanum at 11 p.m. on the night of the 18th of December, 1887. The servant informed the husband a few minutes afterwards. He was disinclined at first to believe the statement, but about thirty minutes after the supposed time of his wife's swallowing the laudanum, seeing she became drowsy, he called in the assistance of a medical student who was living in the house.

I now insert the account of this gentleman :—

“My attention was called to A. B., after being informed she had drunk two ounces of laudanum. I found her in the following condition—a marked condition of drowsiness with contracted pupils. Although I could see from her appearance she had evidently taken the drug to some extent, I was not inclined to believe she had taken so large a

<sup>a</sup> Read before the Medical Section of the Royal Academy of Medicine in Ireland on Friday, March 11, 1892. [For the discussion on this paper, see page 336.]



quantity as the servant represented. So I got some strong tea prepared and made her swallow, after some persuasion, about half a pint of the infusion. A. B. was at this time walking about in a somewhat dazed condition. After taking the tea she retired to bed, but, not feeling easy regarding her, I remained in my room reading. About 1 a.m. the husband came down in a state of alarm, saying she was in a deep sleep, from which he had been unable to arouse her by shaking or calling her by name. I found her lying, as he described, in a condition of sleep, with slow and stertorous breathing. After some difficulty I succeeded in arousing her, but on discontinuing my efforts she again sank into the same lethargic condition. When aroused she was just able to say, 'Please, let me sleep.' Her breath smelled of laudanum. Her pupils were contracted to an extreme degree, giving the eyes a peculiar appearance. With her husband's assistance, each of us taking an arm, we forced the patient to walk up and down the room. I endeavoured to make her swallow some ether, but without avail. At last, seeing she grew worse in spite of my efforts, and her husband, who had been assisting me in the attempt to arouse her, now completely broke down, thus leaving me to my own resources, I sent him for medical assistance, while I continued to force her up and down the room, dragging her the greater part of the time, despite which she rapidly sank into a comatose condition."

I saw the patient at 3 a.m. She was then in a collapsed condition. Efforts had been made to keep her walking, which at that time consisted of dragging her across the room, as the power of motion seemed completely gone. She was still capable of being roused by slapping her face and chest with a wet towel, but in another second she sank into a comatose sleep. Her pupils were veritable pinholes; her breath gasping; pulse imperceptible; surface of the body cold.

I had hardly entered the room when her breathing ceased. All our efforts could not arouse consciousness, and life appeared extinct. Seeing she was too far gone to use the stomach-pump, not having any atropin with me, I at once started artificial respiration, getting the medical gentleman who was there to inflate her lungs. We gave her hypodermics of ether and enemata of brandy and tea.

After two hours' hard work she became slightly conscious, was able to speak a few words, and to swallow some tea.

I then passed a catheter, and drew off a pint and a half of urine, which distinctly smelled of laudanum. This was, however, a brief respite. Although we did all we could, in a few minutes she again sank into a comatose condition. I then tried cold affusion to her head, and continued the artificial respiration, with hot jars to her feet, axillæ, thighs, and sinapisms to her legs, epigastrium, and, I might say, everywhere.

The enemata of brandy and tea with the hypodermics of ether were administered by either of us when the other was working the artificial

respiration. Our efforts did not produce any effect; except now and then a gasp there was no sign of life.

At 7 a.m. I inserted hypodermically  $\frac{1}{100}$  grain sulphate of atropin; a second injection fifteen minutes afterwards; a third in half an hour; and a fourth in thirty minutes afterwards. Her condition before giving the atropin was—1. An attempt at respiration, due, I believe, to artificial means; 2. An imperceptible pulse; 3. A dry skin; 4. Pupils somewhat dilated, which was due to the failure of her vital power. These injections I firmly believe, as you shall see from the subsequent history, did no good.

She was seen at 9 a.m. by the late Dr. Corley and Professor Hamilton. The outlook was very bad. Dr. Corley was inclined to think there was no use continuing, but I determined as long as there was the least sign of life to do all I could, hoping that a certain amount of the poison would be eliminated by the kidneys if we could keep her alive long enough.

We continued the artificial respiration, and gave another  $\frac{1}{100}$  grain of atropin at 12. The patient's condition then was the same; there was an occasional feeble effort at respiration.

At 1 p.m. I thought all was over; her lower jaw dropped; all attempts at respiration ceased. I was on the point of giving up when I remembered I had sent for a magneto-electric machine early in the morning. Getting one pole over the back of the neck and the other on the frontal region, I set the current working. After what appeared a long time I heard a gasp, followed by a second. This gave me new hope, so I commenced again the artificial respiration. The current appeared to have set the respiratory apparatus working, as the feeble respirations continued until 2 p.m., when the same happened—the face, which was all along pale, became dusky; the eyes open with dilated pupils, and the lower jaw dropping, while all respiration had ceased.

After the last success with the electricity I did not despair, so putting one pole over the epigastrium, and the other to the nape of the neck, I turned on the current. The gasping respiration again commenced. So getting my assistant to follow each effort with the arms raised over her head, I kept the current on for twenty minutes. At that time the feeble respirations became for the first regular, four to the minute. Fearing lest the electrical stimulus might be exhausted, we again continued the artificial respiration alone. For two hours the respiratory efforts were very feeble, but regular.

At 4 p.m., greatly to our joy, they rose to 8 per minute, and became gradually stronger until 5 30, when, the breathing being 13 to the minute, the conjunctival reflex appeared, and artificial respiration, after fourteen hours, was stopped.

Later on the patient was able to take nourishment; the pupils acting to light. I left her at 2 a.m. under the care of a nurse, with directions to awaken her every hour and give her some hot milk.

The further history of the case is of no interest. She suffered some trouble from abscesses after the ether injections; but when I saw her some weeks ago—nearly four years after that memorable night—she was in perfect health.

I wish to draw your attention in reference to the above case to the following points:—

As to the quantity taken, we found out afterwards it was three ounces—that is, 99 grains—of opium. This we discovered by comparing the known quantity of laudanum which was in the bottle at 10 p.m. with what we found there in the morning, no one having access to the room where it was left in the meanwhile. The difference was about three ounces. This bears out the servant's statement as to having seen the patient drink a two-ounce measure full of laudanum. An ordinary two-ounce measure, as you know, when filled to the brim contains about three and a half ounces.

I am aware that much larger doses of opium have been recovered from. In "Guy's Hospital Reports" it is mentioned that a patient took five ounces of laudanum without producing the slightest poisonous effects. Dr. Bowstead, of Wycombe Regis, reports a very remarkable case of recovery in a lady who had drunk eight ounces of laudanum and was not seen until fourteen hours after the poison had been taken, owing to her having locked herself in her bedroom. There are other cases reported of recoveries from similar quantities.

But when we come to cases in which the medical man who attended was able to ascertain for himself the amount taken without any source of error, and compare them with the former accounts in which hearsay evidence of the patient's friends was taken, we must be struck with the fatal results in comparatively small quantities.

Amongst many cases I will merely instance one recorded by the late Mr. Kirby, in which the fatal dose was one ounce; and a second, by Dr. Cleveland, of Maida Vale, where, although the young man was seen almost immediately after swallowing two ounces of Battley, his stomach washed out, and all the other aids tried, the case became rapidly fatal.

One peculiar thing about my case was that there was no vomiting, which generally follows so large a quantity of laudanum taken at once.

I may here remark the patient was, from all I could ascertain,

not given to taking the drug. She had once or twice a draught of it, about 20 minims, prescribed for some dyspeptic trouble. So there is no doubt she took a very large poisonous dose, and was not previously tolerant of opium.

The next point is the secondary asphyxia of opium-poisoning which occurred here, you may remember, after two hours' artificial respiration. Six hours after the poison was taken she recovered consciousness and was able to speak, but in a few minutes sank again.

This is a condition I find referred to without any explanation being given in Taylor's book on Poisons; and on looking up the literature I find this was a very bad symptom, nearly all the cases it was present in died. The late Mr. Kirby, of this city, mentioned the case of a lady who recovered after fourteen hours, was able to speak to those around her, but suddenly became unconscious, and died four hours afterwards.

I would venture to suggest that this depends on a secondary absorption. The first quantity taken into the system had a paralyzing effect, so that when the condition improved a residue of the poison which remained in the stomach was taken up.

As to the treatment, there is no doubt that the stomach should have been at once washed out when the first symptoms appeared. It was the uncertainty of the quantity which kept the friends of the patient from sending at once. When I arrived it was too late, for three reasons:—

1. Her respiration had stopped.
2. Probably the greater part of the laudanum was absorbed.
3. The danger was from the opium in her blood, not from what remained unabsorbed.

Next as to cold douching; this, I believe, did more harm than good. I would only employ it when there is a moderate case with warm skin, and not in a collapsed condition like the present.

The atropin was of no avail, and had no effect either on the heart or respiration. In fact, the respiration was worse after its use.

In my opinion this patient owes her life to three things:—

1. The artificial respiration continued for fourteen hours.
2. The interrupted current, without which the first would have, I believe, failed.
3. The ether with enema, which latter, getting some fluid into the system, caused a certain amount of diuresis.



In conclusion, I would beg to point out, from the extreme hopeless nature of this case, that we ought to be very slow to give up a case of opium-poisoning if there is the faintest sign of life, and even when that appears extinct, not to discontinue our efforts for at least twenty minutes after apparent death.

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ART. XIV.—*The Position of Dispensary Medical Officers in Ireland, and Suggestions for the Removal of their just Grievances.*<sup>a</sup>

By THOMAS DONNELLY, M.D., M.A.O. Univ. Dubl.; F.R.C.S.I.; Assistant Physician, House of Industry Hospitals, Dublin.

THE subject I venture to bring under your notice is one specially suited for discussion by the State Medicine Section of this Academy, because the dispensary medical officers of Ireland are *ex-officio* medical officers of health in their respective districts.

At present the dispensary medical officers are taking advantage of the opportunities offered by the press to ventilate their grievances and bring under the notice of the Government suggestions for the removal of the most glaring injustices from which they suffer.

As you are doubtless aware, the Irish Medical Association, the British Medical Association, and also associations throughout the country, are acting vigorously for this object. It would, indeed, be strange and impolitic for this Academy, which embraces the profession in Ireland as a whole, not to elicit the views of its members, and by suggestions assist those who are intrusted with drafting the bill to be laid before Parliament at an early date.

Having been medical officer to a country district for nearly two years and to a city district for almost eight years, as well as being assistant physician to one of the largest clinical hospitals in Ireland, I have had opportunities from this varied experience of observing the working of medical charities from many points of view.

Many laymen and, I am sorry to say, a few members of our profession, speak of and act towards dispensary doctors as if the latter did not belong to the guild of medicine, but were a separate and distinct body of public servants.

To dispel this curious illusion, and bring about more harmonious action of the profession in the relief of human suffering, I shall

<sup>a</sup> Read in Section of State Medicine of the Royal Academy of Medicine in Ireland, Thursday, March 3, 1892. [For the discussion on this paper see page 330.]

endeavour to put the position of the dispensary medical officer in his public capacity before you in as few words as possible. To do so I must first explain that the present system of administering medical relief in hospitals as well as poor law dispensaries, with which latter only I shall now deal, is unjust—first to the profession as a whole, and secondly to the medical officer.

First, as regards the whole profession. You all know that many of the most eminent members of our guild began life as dispensary doctors, and at the present time many earnest, able, and very highly distinguished men are in the poor law service. Hence it is not the *personnel* that is to blame for the position held by the medical officers in the estimation of the public. It is due principally to the indiscriminate issue of medical relief tickets by irresponsible persons to those not entitled to relief at all. Our skill and advice are marketable, so that the public value them as other things, at the price that must be paid for their use. Hence, a dispensary doctor in his own district, because his services can be obtained for nothing by almost every person in his district, is held in lower repute than he is elsewhere, or would be therein if dishonest persons were not permitted to take advantage of what is intended for the poor. Now, the profession at large must suffer in reputation by the lowering of the status of 848 fully qualified members thereof. Every member of the profession loses money indirectly also, because the dispensary doctor is frequently obliged to attend cases gratuitously that should, and would, yield fees either to the medical officer in his private capacity or some other practitioner.

With the object of making this clear I will relate two cases out of a great number that I can vouch are true and not exaggerated. One day a respectable-looking person presented a black ticket at a dispensary for advice and medicine, which ticket was obtained in the following way. In the course of conversation with Mr. —, a warden, who kept a shop, she mentioned that she was under the care of Dr. —, to whom she was paying five shillings per visit. He spoke in the highest terms of the dispensary doctor, and recommended her to consult the latter, adding that it would cost her nothing, as he had tickets, one of which he then gave her. Was that fair to the medical officer or just to the practitioner—in other words, the profession?

On another occasion the dispensary doctor got a red ticket to visit an old lady, whose appearance and surroundings indicated

the reverse of destitution. He prescribed for the old lady, at the same time informing her that his duty as medical officer was with the poor, and endeavoured by his manner to indicate that he did not consider her an object of charity. Before leaving he requested her to acquaint him at the dispensary if she did not get better, so that he might again visit her. She did not subsequently communicate with him, so that he did not visit her any more. Some time afterwards another doctor informed the medical officer that he attended the same old lady, who was possessed of a considerable sum of money in the funds and other securities. This shrewd physician demanded double the amount he expected her to pay, thinking that the old lady would be pleased at cutting down his fee. To his astonishment she paid him forthwith, and was profuse in her expressions of gratitude for his kindness. He attended her for about a year, during which time he received over £35 in fees from her. She had also been paying for medical attendance before she sent the red ticket for the dispensary doctor.

I could multiply instances where the profession as a whole loses money by the abuse of medical relief, but doubtless in the discussion which, I trust, this paper will give rise to, many cases of imposition will be mentioned by the dispensary medical officers present which will prove very clearly the necessity that exists for some means being taken to protect the profession from the lowering of its status and loss of money. I trust that I have shown that it is the interest of us all to join hands in the endeavour now being made to prevent the abuse of medical relief.

Secondly, the system is very unjust to the conscientious, able medical officer, because the better he knows and does his duty the more work is thrown on his shoulders without increase of remuneration. This will appear quite plain from the following, which happens to be the case at present in two adjoining country districts with which I am acquainted:—

Dr. A., an able, conscientious M.D., who does his work well and has earned a good reputation in his district, has a large, laborious practice, for which he receives £125 per annum.

Mr. B, his neighbour, a doubly qualified licentiate, has a very indifferent reputation, but fortunately has private means, receives the same salary, £125 per annum for merely attending for an hour or so at the dispensary twice a week. Is it just that these two men should have the same salary?

I have been credibly informed of the following case, which

occurred in the country:—Dr. C. had been attending a farmer for some time on a red ticket, when one day he met his neighbour and friend Dr. D. at the patient's home. Dr. D. expressed surprise at meeting his neighbour there on a red ticket, and informed him that he received £2 for the visit, and was not aware of Dr. C.'s attendance. Now Dr. C. did not receive a fee at all, although the patient could afford to pay Dr. D., also a dispensary doctor, £2 for one visit, simply because it was possible to procure a red ticket for Dr. C., and the patient wished to save some expense, as was ingenuously told to myself on one occasion.

The injustice to the profession is greater in city districts, as tickets are issued by irresponsible shop assistants indiscriminately, whereby many practitioners who would be satisfied with a small fee are deprived thereof, as I have already shown. Owing to the great number of patients, and the tricks and devices resorted to in many cases, it is only after some time that the dispensary doctor becomes aware of the imposition. Of course frequently the fraud is not detected at all.

It may be said, why not get improperly issued tickets cancelled? Some do try this, the only legal method of preventing the improper issue of tickets, but, I fear, with indifferent success. One feels chary about asking to have tickets cancelled for three reasons:—

1. The attendance may have ceased before the patient's circumstances become known to the doctor, who feels that it might be unkind to pry into the affairs of perhaps very respectable, though poor, people.

2. The *onus probandi* is thrown on the doctor, which is most unfair. As you all know, it is very difficult to extract legal evidence from unwilling rogues. Hence he prefers to sacrifice the doubtful fee and avoid wasting time in making inquiries elsewhere.

3. The tribunal to which he must appeal is composed of the very men who issue the tickets or allow them to be issued, so that he asks a body to pass a vote of censure on its own members, which naturally it would, if possible, refrain from doing.

The public never seem to consider the anxiety and worry the medical officer suffers from, or that he is responsible for every call that may be made on him at any hour, day or night, during the entire year. If he takes a holiday he must provide and pay his substitute, unless he produces a medical certificate of illness or temporary incapacity. This expense, in conjunction with the



loss of his private practice, prevents many taking a holiday for years, and some in very poor districts could not afford to go away even if offered a temporary respite from duty.

When a medical officer becomes debilitated from old age or overwork he is afraid to resign, lest the guardians refuse to give him a pension, which they may or may not, most likely not, vote to him. The result, of course, is appalling cruelty to the medical officer and the poor entrusted to his care in cases, not very infrequent, where octogenarians and others suffering from incurable maladies struggle to do their duty, until Mors mercifully relieves them from torture inflicted on them by the working of a system which is supposed to be for the relief of suffering humanity.

So much has been written lately in the journals on this subject that it is unnecessary for me to trespass further on your patience by the recital of all the grievances from which the Irish dispensary doctor suffers, and shall conclude by mentioning what appears to me most urgently required in the relative order of importance.

1. Legal definition of a "poor person." A list of poor people entitled to medical relief made out annually by the clerk of the union, and forwarded to those entrusted with the issue of tickets.

2. Power to issue tickets to be given to responsible persons only.

3. A more simple and direct method of cancelling improperly issued tickets.

4. A salary of £200 per annum in towns where daily attendance at the dispensary is required; and £100 per annum in country districts, as attendance twice a week is in nearly all places sufficient. In addition to the above a mileage fee of 1s. per mile be paid on all visiting tickets, in order to have the remuneration vary in proportion to the work done and prevent unnecessary visits.

5. Pensions at the civil service rate after twenty years' service. Resignation to be voluntary with the medical officer up to 65 years of age, after which age retirement to be compulsory.

6. A proper residence, with dispensary and stabling, &c., attached, should be provided and maintained by the guardians for the medical officer free of rent and taxes so long as he continues in the service.

7. Dispensary doctors should be *ex-officio* medical officers to the workhouse hospitals of their districts, and should do duty there for at least a month at a time in rotation. This is more requisite in country than in city districts.

8. Thirty days' annual holiday should be granted irrespective of *bonâ fide* sick leave.

On Wednesday, February 17th, 1892, resolutions were passed at a conference held in the Royal College of Surgeons. They have my entire approval as far as they go, but I think the omission of an annual holiday, proper residence, and provision for attendance at the workhouse hospitals, are very much to be regretted.

In conclusion, I think it would be most desirable to have the service altogether remodelled, and a State department substituted which would embrace all public medical and allied work, with a sufficient salary to enable the medical officer to live independently of private practice, and free from the control of local shopkeepers and others. This, however, I fear, is utopian.

ART. XV.—*The Residential Disabilities of Medical Officers in Rural Districts.*<sup>a</sup> By P. M. LAFFAN, Medical Officer, Killeen, Co. Meath.

I WILL endeavour in this paper to put before you briefly one of the principal obstacles that prevents the erection of medical residences more numerous throughout Ireland—namely, the lamentable defects of the “Dispensary Houses Act, 1879.”

Until this parody on constructive wisdom received Parliamentary sanction, one of the great disabilities under which medical officers laboured was the difficulty—I might say, rather, the impossibility—of procuring a proper residence in a central position in their respective districts. Many had to live in most inconvenient parts of their areas, and several had to occupy wretched dilapidated and wholly unsuitable houses.

The following is one of many illustrations that can be adduced:—Several years ago a medical man was appointed to a district in an adjoining county. He was facetiously made to promise to reside in the centre of the district, though there was no residence to be had in any part of it. With much difficulty, and not without considerable pressure having been brought to bear by the clergyman of the parish, he got one room in an old thatched house on the side of the road. Here he resided for three years, and then succeeded in getting the tenancy of a capacious residence,

<sup>a</sup> Read, by permission, before the State Medicine Section of the Royal Academy of Medicine in Ireland, on Thursday, March 3, 1892. [For the discussion on this paper see page 330.]

which was suitable enough only that it was so far situated from the central cross-roads that it increased the number of miles to be annually travelled by nearly 700. Even so, he would have continued to live in it, as he had done for several years, but the owner requiring it for his own use some time ago, he again had to go back to the one room, where, still worse, the family were now unable to accommodate him for more than a fortnight. He then applied to the guardians for a labourer's cottage *pro tem.*, which they granted; but this concession was subsequently refused by the Local Government Board, as they considered it would be illegal to make any other use of those cottages than that for which they were originally intended. The medical officer, being on the horns of a dilemma, began to make arrangements for a wooden hut, when a kind-hearted gentleman in the neighbourhood, who partially resided in Dublin during the winter months, gave him accommodation in his castle until the ensuing summer. He was then promoted to the village publichouse, where he is now enjoying his *otium cum dignitate*.

There were, I am sure, many similar cases of great hardship throughout the country, and I know that in towns also medical men have often to encounter no small difficulties in getting fairly good houses.

Now, you may reasonably ask has not all this been remedied by the Dispensary Houses Act of 1879? I regret to say only to a moderate extent, in consequence of its malconstruction and many practical defects, the principal of which are:—

1st. It contains no clause, like the Labourers Act, for the compulsory acquisition of land, and the result is that some boards of guardians, though quite willing, have been unable to build dispensary residences owing to the difficulties of procuring sites. As the committee, even when eligible sites are available, can take only what is voluntarily offered, they are powerless to select a central position, and are, therefore, debarred from taking into consideration the requirements of the districts or the convenience of the medical officer from a geographical or population standpoint.

2nd. The rate of repayment at 5 per cent. is too high, and is bound to entail an annual loss to the union for 35 years, unless a very small structure be erected or an unreasonable rent be put on the tenant. This the guardians, in the interests of the ratepayers, naturally object to, and, consequently, many boards are inclined to shelve altogether, or to let die from inanition, applications for the

erection of dispensary residences. I need not remind you that under the Land Acts money is lent on a lower scale, and surely advances for a public purpose ought to be made not alone on an equality, but on still more advantageous terms than those made by the State to facilitate bargains between private individuals.

3rd. The principal defect of the Act, and the one which has been most instrumental in militating against its success, is contained in the 11th section of it—namely, a prohibition from taking a longer lease of the selected site than 60 years. I know not whether this was done—which is not probable—to indirectly bring pressure on the guardians to purchase rather than take a lease, or whether it is merely a clerical error of the draughtsman of the Bill which escaped the observation of the hon. members towards the small hours of the morning when they were weary from legislative toil and want of repose. Be that, however, as it may, there is one thing certain, that this unfortunate and ridiculous restriction has been the cause of occasioning delays, often for several years together, with an enormous expenditure in the way of law costs, as the guardians were by it compelled to purchase the fee, necessitating legal searches and other expensive methods of proceeding, which could have been avoided if they were empowered to accept long leases—a comparatively simple and cheap mode of acquiring land. Much money that might with advantage be spent on the buildings was thus wasted in another direction. The following is a striking illustration of this :—

The committee of one of the districts of a union agreed to erect a much-needed residence for their medical officer, and looked around for a site. They could have easily obtained several on leases varying from 60 to 999 years, containing the full quantity—five acres—permitted by the Act, but as they thought it would not be a good business arrangement to expend a large amount on a short term, they decided to procure the fee-simple of another site, and it happened that in the whole neighbourhood there was only one piece of land that could be obtained on that tenure. They agreed about the price with the legal representative of the reputed vendor, but when the title came to be investigated it was discovered that there was a plurality of ownership and almost endless complications besides; furthermore, those in whom the estate vested were not available for the execution of the deed of assignment—one of them was fishing in Norway, another ranching in the Western States of America, and a third trying to regain lost health in a



southern clime. The rest—and there were seven altogether—were scattered over Great Britain. The result of this untoward state of affairs was that the law costs amounted to over £150, and that the house was not completed for five years from the time the matter was first initiated, and the quantity of land that entailed all this waste of time and money did not exceed *one* acre, though, as previously mentioned, the committee could have obtained sites containing the full five acres on leases of 99 years or more at much smaller expense did the section permit them to so accept.

Another case exemplifying how severely handicapped the guardians and medical officers are by the limitation clause occurred quite recently. A certain board having disagreed with the head landlady as to the amount of purchase, entered into negotiations with the next in title—the representative under a fee-farm grant—took a 60 years' lease; and when the matter was put into the solicitor's hands the grantee, a generous lady, offered to give a lease for 999 years without any additional charge, which, by reason of the clause, the guardians were unfortunately precluded from accepting.

This last instance strongly emphasises the need that exists for retrospective legislation should the 11th section be rectified, so that in those cases where the guardians have already built on lands taken under the short tenure they will get the benefit of the corrections that will be made in the Act, thus enabling them to accept a lengthened lease in lieu of the comparatively short period of 60 years.

I will also direct your attention to another of the faults of the Dwelling Houses Act—namely, the omission from it of any section conferring legal authority upon boards of guardians to entertain the applications of workhouse medical officers in cases where those officers have been unable to rent suitable residences within convenient distances of their hospitals.

In conclusion, I would suggest:—

1st. That the Act be amended so that the guardians may take, subject to such exceptions as may be determined on, land by *compulsion*, for the erection of dispensaries and dwellinghouses for medical officers.

2nd. That the percentage charged by the Board of Works on the loans for building those residences be reduced to the minimum at which the State can lend money without financial loss by the

repayment being extended over a more lengthened series of years than is at present permitted.

3rd. That section 11 be altered so as to enable boards of guardians to take land on longer leases than the absurdly short period of 60 years only now by this Act allowed, thus avoiding the expenses and complications incidental to the acquirement of fee-simple property, for which latter the construction of the Act in its present form necessitates a preference.

4th. That this clause be made retrospective, so that pre-existing contracts may be brought within its scope.

5th. That medical officers of workhouses be admitted to the benefits of the new Act, the boards of guardians being invested with the powers and functions which are now divided between them and the dispensary committees.

6th. That boards of guardians and "owners" who are at *present* indebted to the Commissioners of Public Works under the existing Act, be allowed, should there be a revision of it, a readjustment of their contract with the latter body, which would enable them to obtain the advantages of whatever concessions Parliament may be pleased to grant in the way of lessening the annual rent-charge by the extension of the time for liquidating the loans.

I am convinced that if the defects touched upon be brought prominently forward and pressure actively exercised in the proper quarter, especially if supported by the weight and influence of this great Academic Institute, it will not fail in the near future to be productive of an amelioration of the Act that will be in keeping with progress and expediency.

ART. XVI.—*A Case of Recurrent Enteric Fever, followed by True Relapse.*<sup>a</sup> By JOHN WILLIAM MOORE, M.D., Univ. Dubl.; F.R.C.P.I.; Physician to the Meath Hospital, Dublin.

THE present "Clinical Record" may well claim the attention of physicians, inasmuch as it refers to a case in which, not only did enteric fever recur in the same patient, but the recurrent attack was succeeded by a true relapse after an apyrexial period of eleven or twelve days.

In April, 1877, I attended with the late Dr. Alfred Hudson

<sup>a</sup> Read before the Medical Section of the Royal Academy of Medicine in Ireland, on Friday, February 5, 1892. [For the discussion on this paper see page 238].

and Sir George Owens, a lad of fifteen years, who passed through a typical attack of enteric fever lasting 23 days—in which, however, constipation and not diarrhœa was the rule. In October, 1891, the same gentleman, at the age of twenty-nine, sickened of a fever which proved to be undoubted enteric fever. After running an acute course of 24 days, followed by a subfebrile period extending over another week, this attack was succeeded by convalescence, which seemed to be in all respects normal. On the eleventh or twelfth day, however, from the establishment of apyrexia, acute febrile symptoms again showed themselves, and for the third time in his life the patient passed through an attack of enteric fever.

The salient points are of course only given in the foregoing brief statement. The facts are as follows:—

CASE.—In April, 1877, W. H. P., a schoolboy, aged fifteen, was staying in the Co. Wexford, where he slept in a room situated near an offensive manure-heap. To this the patient himself attributed his illness, which began on Thursday, April 19, with a feeling of nausea at school. He returned home and went to bed. He at once lost all appetite, the sickness continued, but without vomiting. The following day diarrhœa set in after a dose of effervescing magnesia; this was in turn succeeded by constipation.

On Tuesday, April 24 (6th day), he was seen by Dr. Hudson, Sir George Owens, and myself. At 1 30 p.m.—pulse 94, resp. 34, temp. 103·3°. His tongue was furred, but moist; some sordes clung to the teeth. He was perspiring freely; there was no abdominal tenderness. Next day rose-spots appeared, and the fever ran very high, the thermometer marking 103·7° in the axilla at 6 p.m. At this time he was on an exclusively milk diet, and the bowels were obstinately confined.

On April 28th (10th day) I took this note at 6 p.m.:—"Has been more prostrate this afternoon—P. 86, Resp. 34, T. 102·7°. To have chicken-broth, claret, and this mixture:—

℞. Extracti Cinchonæ Liquidī. ʒii;  
 Acid. Hydrochlorici diluti, ʒii;  
 Tincturæ Cardamom. Comp., ʒss;  
 Aquæ Chloroformi, ad ʒvi.

M. ft. mist. Signetur: Half an ounce three times a day."

On April 29 (11th day) the state of the patient was still less satisfactory—the tongue was drier and browner, more sordes had gathered on the teeth and gums; there was an icteroid tinge of the surface. He had not passed water since 8 p.m. of the previous day. The belly was fuller and more tympanitic; the area of splenic dulness was increased. Many

rose-spots were seen on the chest, abdomen, and arms. The favourable points about the patient were that he had slept well, and pulse, respiration, and temperature were all falling uniformly. At 3 p.m. he was hot and uncomfortable, owing to inaction of the bowels and retention of urine. I gave a large warm water enema, when quantities of solid and fluid fæces came away, and he passed water freely twice. The tongue was much coated at this time, and the papillæ were enlarged and fiery.

On May 2 (14th day) the temperature rose to  $103.4^{\circ}$ , and on the following day, after  $4\frac{1}{2}$  hours' continuous sleep, the urine, which was dark-coloured and of high density (sp. gr. 1025), began to throw down copious deposits of urates. This occurrence was manifestly of the nature of a crisis, for the patient's state improved daily henceforward, although it was not until May 12th (24th day) that I was able to make the entry in my notes, "No fresh rose-spots." A period of subnormal pulse and temperature readings now followed—the pulse falling to 54 beats per minute, and the temperature to  $96.5^{\circ}$  on May 20th (32nd day). Two days previously I had made this entry—"Slept well, *whistled* this morning," not a bad sign of convalescence in a school-boy.

Soon after this the patient went to Caunterets in the Pyrenees, where his health was happily quite restored.

October 15, 1891.—On this day Mr. W. H. P., aged twenty-nine, now a barrister by profession, left Dublin apparently in good health, on a week's visit to a country house in one of the midland counties of Ireland. He returned on Thursday, Oct. 22nd, and two days later, in the evening, he first complained of feeling unwell. From this statement I conclude that Mr. P. probably contracted the fever in his town residence before he went on a visit—the most usual length of the period of incubation in enteric fever being a fortnight or thereabouts.

On Sunday, October 25th, the patient awoke with a stiff neck and a slight headache. Next day he went out, although feeling badly, and in the afternoon sat over the fire owing to an unconquerable chilliness. On Tuesday, the 27th, he was utterly unable to leave his bed. He spent the next three days in bed, attended by Dr. L. H. Ormsby, who found his morning temperatures  $100^{\circ}$ , his evening temperatures  $101^{\circ}$ , or slightly higher. Feeling rather better on Friday, the 30th—when both morning and evening temperatures were  $98.5^{\circ}$ —he got up at 3 30 p.m., and sat in an arm-chair at the fire, feeling very weak. At 7 p.m. he ate partridge on buttered toast for dinner, after which he spent a restless night, so that by the morning the temperature had risen to  $101^{\circ}$ , remaining at this point throughout the day. I saw him with Dr. Ormsby in the evening, and came to the opinion that the attack had probably arisen from over-fatigue in the country and indigestion. Having a vivid recollection of his enteric fever  $14\frac{1}{2}$  years previously, I put aside the thought that it was the malady from which he was now suffering.



At 9 a.m. next morning (November 1) the temperature was  $104^{\circ}$ , the patient was coughing frequently, especially whenever he lay on his right side. He brought up mucous sputa, occasionally streaked (not tinged) with blood. Diarrhœa now set in—five motions of the colour and consistence of pea-soup occurred in the 24 hours ending at 9 a.m. of November 2, when the temperature was  $103^{\circ}$ . Shortly afterwards it rose to  $103.7^{\circ}$ , with a pulse-rate of 104, and respirations 30 to 32. He was ordered to be sponged in the morning, afternoon, and evening, and at midnight, while milk and lime-water, and chicken jelly, followed by crushed ice, were given alternately.

November 3 (11th day).—Rose-spots are visible to-day, both on the abdomen and on the back. The patient's dietary now consisted of 3 ozs. of boiled milk with 1 oz. of lime-water every third hour, and 2 ozs. of chicken jelly every sixth hour. Two turpentine capsules (containing 10 minims) were given every fourth, and a three-grain quinine pill every eighth hour. Crushed ice was allowed freely, and the tepid sponging was carried out as before.

November 4 (12th day).—Increasing bronchial trouble was treated by the free application of compound camphor liniment to the back and front of the chest, which was then enveloped in cotton wool, previously well warmed. The hip, back, knees, and other parts exposed to pressure were rubbed with spirit of camphor night and morning, and then dusted with "violet powder."

November 5 (13th day).—Temp.  $103^{\circ}$ . The only change in the treatment was to add one ounce of beef tea to each meal of chicken jelly.

November 6 (14th day).—Evidences of serious heart-failure now presented themselves. The cardiac sounds were weaker. The heart changed its position easily—when the patient turned from side to side, the heart "sagged" over to the dependent side. The area of pre-cordial dulness had increased laterally, and the radial pulse failed when the arm was held aloft. The patient spent a very restless night. Morning temperature,  $103.2^{\circ}$ . One ounce of brandy was given in teaspoonful doses during the day.

November 7.—A complaint of pain in the abdomen was met by the application of turpentine fomentations.

November 9.—We found the patient weak after a restless night, with some delirium. Ordered to have food every hour—either one ounce of hot milk with a teaspoonful of brandy, or  $1\frac{1}{2}$  ozs. of mixed chicken jelly and beef tea with 2 teaspoonfuls of Brand's essence, washed down by half an ounce of old port.

On November 13 (21st day), rennet was ordered for a change, as the bowels were rather constipated.

November 15.—The yolk of an egg was put into a cup of tea morning and evening.

During the following few days enemata were administered to overcome constipation. On November 20 rusk was broken into the beef tea. The dietary now was:—A cup of tea and yolk of an egg at 9 a.m., a cup of beef tea at 11 a.m., a cup of custard at 1 p.m., a cup of rennet at 3 p.m., a cup of tea and egg at 5 30, a cup of beef tea at 8 p.m., and so on during the night, if awake.

November 22.—Sat up for a few minutes while bed was re-made; seemed wonderfully strong.

November 24.—Got thin bread and butter without crust morning and evening, with cup of tea; sat up in armchair for one hour.

November 27.—Walked into adjoining room, and sat there for two hours; temperature subnormal this morning.

November 29.—Walked down to the drawingroom to-day, and sat up for two hours; all medicine stopped, and plenty of nourishment given; porridge and cream at bed-time.

December 3.—Got minced chicken for first time to-day, and enjoyed it.

December 4.—Went out for half an hour in the carriage.

December 6.—Had filleted sole for dinner and baked apples, also a glass of wine.

December 8.—Patient's cough has disappeared; he eats and sleeps remarkably well; is gaining strength, but still looks thin, as most typhoid patients do in the stage of convalescence.

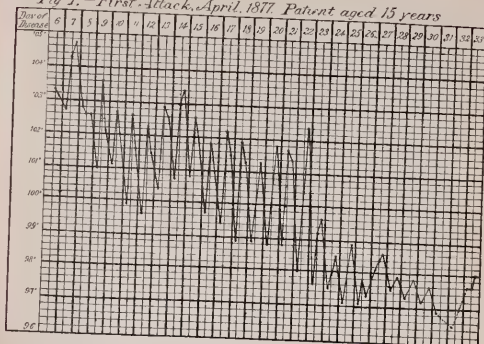
December 7, 1891.—The patient's temperature had been subnormal in the morning for three weeks. He had been downstairs, in apparently good health, and eating such solids as chicken, fish, and bread and butter. His only complaint was of constipation. Each morning about 10 o'clock he had one very small motion, always composed of lumps, passed either singly or sometimes in a hard, large mass. This was duly reported as well as marked on the daily chart.

In the afternoon of this day the patient saw his first visitor, a friend who stayed with him from 4 to 4 45 p.m. He seemed to enjoy his company very much, laughing and talking pleasantly. At 5 30 p.m. he had tea. At 7 p.m. he went to bed. At 8 p.m. he said to the nurse:—"I fear I have talked too much this afternoon, I have a headache again." The nurse took his temperature, and found it 100°. A dose of 30 drops of liquid extract of cascara sagrada was given, and acted well by morning, but at 9 a.m. the temperature was still as high as 99·8°. Notwithstanding, the patient dressed as usual, came down to drawingroom, and even went out for a drive in the middle of the day. He dined on filleted sole.

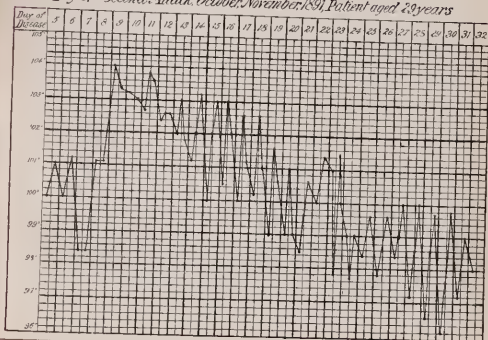
Towards evening he became very feverish, the thermometer rising to 102·8°; he was sponged, after which he slept well. Next morning he was dull and heavy-looking, complained of headache and pains in his arms; the temperature was 102°. I saw him with Dr. Ormsby, and considered that the attack was one of influenza—basing my opinion on

# CHARTS OF TEMPERATURE RANGES IN RECURRENT ENTERIC FEVER.

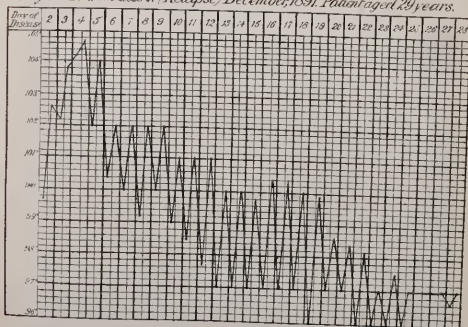
*Fig 1.—First Attack, April, 1877. Patient aged 15 years*



*Fig 2.—Second Attack, October, November, 1891, Patient aged 29 years*



*Fig 3.—Third Attack, Relapse, December, 1891, Patient aged 29 years.*







the sudden onset, the neuralgic pains, the thickly-coated tongue, and the rapid, running pulse. The temperature went on rising, however, the fever culminating on the evening of the fourth day in a reading of  $104.6^{\circ}$ . On the following day the reappearance of rose-spots in considerable number left no room for doubt as to the nature of the case, which was clearly one of relapse in enteric fever. At this time the temperature ran very high, the tongue was very dirty and coated, headache was severe, and there was much delirium at night, the patient imagining that other sick people were in the room with him, and asking the nurse if she had fed them also. There was albuminuria, and the urine was concentrated and loaded with urates.

One day the patient complained of sore throat, and we found that the tonsils were enlarged, while the uvula, soft palate, and pillars of the fauces were red and very œdematous. Much pappy exudation lay free on the surface of the mucous membrane. The throat symptoms yielded readily to frequent spraying with lactic acid, the "nebula" employed consisting of one drachm each of lactic acid and glycerine with 14 drachms of water.

The course of the relapse fever is shown in Fig. 3 in the Plate of the temperature charts. From December 12 to 16 the temperature was  $102^{\circ}$  each evening, falling to  $100^{\circ}$  in the mornings; afterwards for a week it was subnormal each morning, but rose to  $100^{\circ}$  in the evening.

December 30, 1891.—The patient is, happily, once more very well, eating solids, coming downstairs, and feeling wonderfully strong. Constipation set in with convalescence as before, but on this occasion a teaspoonful of castor oil and one of glycerine were given in milk every second morning with a good result—this simple dose keeping the patient comfortable and regular.

January 7, 1892.—The patient's temperature, which had been persistently subnormal for at least ten days, began to rise a little—from  $96^{\circ}$  to  $98^{\circ}$  in the evenings.

January 25, 1892.—On the evening of this day the patient, now quite convalescent, sailed for Holyhead *en route* to Torquay.

*Remarks.*—There can be no question that in a large majority of instances one attack of enteric fever confers a life-long immunity from a second. Murchison quotes Bretonneau, Gendron, Chomel, Louis, Piedvache, Sir William Jenner, William Budd, and Bartlett as holding a belief in the doctrine of acquired immunity as applied to enteric fever. At the same time well-authenticated instances of persons contracting this fever a second time are on record. Several have come under Murchison's own notice, in which both attacks occurred subsequent to puberty. Trousseau

records two examples of a second attack—one patient, a woman, suffered again after an interval of four years; the other, a girl, had a severe attack at the age of twelve, and another, equally severe, a year afterwards. Similar instances of unequivocal second attacks have been recorded by Piedvache, Michel, Bartlett, Paul, and William Budd. To this list, I submit, the case now reported may with propriety be added.

On November 5th and 6th, 1891, I had the advantage, through the kindness of Professor Emerson Reynolds, and with the aid of Mr. Emil Werner, of testing the diagnostic efficacy of Ehrlich's very striking diazo-test in a series of specimens of urine. Two of the series were non-typhoid urines, two others were from enteric fever patients, and the fifth was the urine of the gentleman whose case is the subject of the present clinical record, on the 13th day of well-marked enteric fever, he having suffered (as has been already stated) from equally well-marked enteric fever  $14\frac{1}{2}$  years previously, when a lad of 15 years. In all cases a change of colour in the urine was observed on application of the test. In the non-typhoid urines only a deeper yellow was produced; in the undoubted primary typhoid urines a beautiful rose coloration quickly developed. In the case of recurrence, changes intermediate between these extremes were noticed—it was as if the previous attack exerted some controlling influence over the reaction.

Perhaps the most interesting feature in the case detailed in this communication is the *relapse* which followed hard upon the second attack of enteric fever. In my long experience of enteric fever, I can recall only three cases of true relapse. One of these I reported to the Academy of Medicine in Ireland in the year 1885.<sup>a</sup>

Towards the close of the year 1886, I met with another instance of true relapse in enteric fever, in the person of a member of the medical profession—a gentleman aged thirty-two years. The primary attack lasted exactly 28 days, and was followed by a week of apyrexia, during which the bowels were confined. On the thirty-fifth day rigors occurred in the afternoon, and temperature rose to  $104^{\circ}$  within 30 hours. This new fever lasted 14 days, and was accompanied by a fresh but scanty crop of rose-spots from the seventh day onwards.

The third case is the subject of the present paper. In my communication to the Academy in 1885, I pointed out that among

<sup>a</sup> Trans. of the Acad. Med. in Ireland. Vol. IV. 1886. Page 1. See also Dub. Journ. Med. Science. Vol. LXXX. December, 1885. Page 486.

the many causes of renewed pyrexia, or feverishness, in the later stages of enteric fever, or in convalescence from this disease, true relapse necessarily occupies a foremost place. And this arises, not so much from any increased danger to the patient's life—which is theoretical rather than founded on fact—as from the comparative infrequency of the occurrence of true relapse in this form of continued fever.

On that occasion I also stated that by "true relapse" I understand a second attack, in which the characteristic phenomena of enteric fever present themselves in sufficient number to establish the diagnosis of the disease—for example, enlargement of the spleen, abdominal tenderness, ochrey diarrhœa, and rose spots; or epistaxis, feverishness with evening exacerbations, abdominal tenderness and tympanites; or any other grouping of the symptoms of this fever met with in practice; the fact being admitted that a perfectly typical case of primary enteric fever, showing *all* the characters of the disease, does not often come under observation, even in the wards of a large epidemic hospital. "By a relapse of enteric fever," writes Murchison,<sup>a</sup> "is understood a second evolution of the specific febrile process, after convalescence from the first attack is fairly established. Relapses must not be confounded with recrudescences, which are common during the stage of ulceration."

It is interesting to observe that, as usual, the relapse in the case I have detailed ran a shorter and on the whole a milder course than the primary attack. This is in accordance with clinical experience. Murchison states that the duration of the second attack is commonly, but not necessarily shorter than that of the first, while its type also is generally milder. As a result of his investigations, it would appear that a relapse is only about half as dangerous to life as a first attack.

The aetiology of relapse in enteric fever is not easily explained. In my former communication to the Academy on the subject, I have fully stated the views which are held upon this point. In the instance now before us, I cannot help thinking that the patient was poisoned afresh with the virus of enteric fever from without while he was in a particularly susceptible condition, in part owing to his weakened state, in part owing to the obstinate constipation which characterised in his case—as in so many others—the stage of convalescence.

<sup>a</sup> The Continued Fevers of Great Britain. Third Edition. Edited by W. Cayley, M.D., F.R.C.P. London: Longmans, Green & Co. 1884. Page 552.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*A Manual of Operative Surgery.* By FREDERICK TREVES, F.R.C.S.; Surgeon to, and Lecturer on Anatomy at, the London Hospital; Member of the Board of Examiners at the Royal College of Surgeons. With 422 Illustrations. Two vols. Medium 8vo. Pp. 775 and 775. London: Cassell & Co., Limited. 1891.

MR. TREVES' well-established reputation as a skilful and original surgeon led us to anticipate a work which would reach a high standard of merit, and would prove a distinct gain to the literature of English surgery. In this we have not been disappointed. In these two handsome volumes, which for clearness and excellence of typography and illustration could hardly be surpassed, and which reflect the highest credit on the publishers, we find an accurate reflex of the best that is known and thought in the operative manipulations of present-day surgery. By that we do not mean to imply that Mr. Treves' work is a compilation and nothing more. It bears on every page evidence of originality and independence of judgment. Though giving, as he states in the Preface, "the account of such particular methods as are associated with the names of individual surgeons . . . in the actual words of the authors," Mr. Treves has, in every instance, brought the various methods advocated to the touchstone of his own experience and practice, and formulated his opinions accordingly. Indeed, the generous appreciation of the work of others which is everywhere shown is one of the pleasing features of the book. Some, no doubt, may be inclined to cavil at a liberality of choice and absence of dogmatism throughout in dealing with alternative operations, and would be better pleased to have an emphatic recommendation of one particular procedure from a surgeon with such a large and varied experience, rather than have the task of selection and discrimination thrown upon themselves. But personally we think that in this course Mr. Treves has exercised sound



judgment. Anatomical advantages or disadvantages are in all cases carefully put before the surgeon, and he is left to weigh the evidence and form his own decision. No operation, as devised by its originator, can possibly be adapted without modification to every emergency, and the surgeon who has carefully studied several alternative procedures with the peculiar needs of his own case ever present in his mind, is much more likely to decide well for his patient, and to come successfully out of a difficulty, than if he were to blindly follow in all its details, suitable or otherwise, some specially designed and highly-lauded operation. We have specially drawn attention to this absence of compulsory selection, because it is frequently—and most unjustly—urged against authors by critics whose apparent line of reasoning is that without dogmatism there can be no originality, and that a book which does not bristle with the author's personality must *à priori* be a collection of platitudes and secondhand thoughts. Of Mr. Treves' originality there can, however, be no question. Those acquainted with his previous writings will be glad to find many of his well-known and frequently-expressed opinions here crystallised out into sparkling aphorisms. This is well illustrated in the first part of the work, which deals with the preparation of the patient for operation, the after-treatment, the accessories required, and the general principles of operative surgery, and is a model of what such instructions ought to be. We quote a few specimens:—"A shakiness of the hand may be some bar to the success of an operation, but he of the shaky mind is hopeless." "He who is about to undertake an operation should know precisely what he intends to do, and should then proceed to do it." "Ingenious instruments which fold up into a small compass, or which combine many functions, are usually to be avoided." Equally true is the observation that, "Some of the least progressive periods in the development of the surgeon's art have been marked by the prolific production of instruments;" and we can emphatically endorse every word Mr. Treves says as to the amount of operative surgery that can be done with a scalpel and pair of dissecting forceps for armamentarium! We quite agree with his remarks about "amputation" and "finger" knives, and his wholesale condemnation of the director, that "sturdy and dangerous bit of steel" to which "the scalpel plays a subsidiary part." What the author describes as *ligature retractors* mark a distinct gain in operative technique. In the method of dealing with the wound after operation, Mr. Treves lays especial stress on

"obliteration of the wound cavity" as a factor in securing primary union, and gives full prominence to his well-known views on the provision of free access of air to all wounds, no bed-clothes being allowed to keep the parts in a moist and germ-reeking atmosphere. Altogether we regard this first part of the book, to which we have given so much space, as one of its most important and best-written sections.

Part II. deals with the "Administration of Anæsthetics," and has been written by Dr. F. W. Hewitt. We can cordially recommend it to all those on whom devolves this duty at the bedside or in the operating theatre as presenting in a clear and concise way an account of the various anæsthetics now in use and the modes of their administration, the dangers of the anæsthetic state, and the means to be adopted in cases of accident during narcosis.

Part III. treats of the "Ligature of Arteries." The anatomical details are excellently given, and the various steps of the operations—*points de repère* of French authors—are clearly set forth; still we cannot help feeling that this is one of the most unsatisfying parts of the work. Mr. Treves discusses but briefly the question of the ligature material—a point to which we think excessive importance has been attached by a certain school of London surgeons—and gives his opinion that, "the best ligature material on the whole is chromicised catgut. It must be of reliable make, be strong, round, quite lissome, of uniform thickness, and perfectly smooth. The size must be regulated by the dimensions of the vessel to be tied."

In Part IV. "Operations upon Nerves" are described—nerve-stretching, neurotomy, neurectomy, and neuroraphy. Among the graver procedures in this branch of surgery, Carnochan's and Rose's operations come in for notice. As regards excising the superior maxillary nerve and Meckel's ganglion, Mr. Treves remarks—"Since it is to be questioned whether this neurectomy is of permanent value, the operations last described can hardly be justified by the results obtained;" while as regards Mr. Rose's operation he writes, "Sufficient time has not yet elapsed to allow of an opinion being formed as to the value of this severe operation." As Mr. Horsley's much more severe intracranial method of removing the Gasserian ganglion had not been published before the issue of this work, no reference is made to such a procedure; but most surgeons will repeat for themselves the question appended to the accounts given of these various neurectomies.

Space will not permit us to speak in detail of the entirely admirable sections which follow, and which deal with "Amputations," "Operations upon Bones and Joints," and "Tenotomy." In the first especially, and to a large extent in the second, of these parts the influence of the French school of surgery is paramount; and considering the brilliant work of the French surgeons in some of these departments which they have made specially their own, it cannot be wondered if their work is predominant throughout. Chap. 27 of Part V. gives the best account we have met with of the osteo-plastic resection of the foot, known by the names of Wladimiroff-Mickulicz; and in the same part is an excellent account of the complete removal of the upper extremity—the *amputation interscapulo-thoracique*—preference being expressed for the method of Paul Berger. In dealing with fractured patella—that much-vexed question of surgery—only two methods are described: that of Sir Joseph Lister by buried silver sutures, and that of the author by modified Malgaigne's hooks. Considering the variance of opinions and of results, some alternative methods demanded at least a brief notice.

Mr. Treves is too much under the influence of the French school to unhesitatingly condemn so-called subperiosteal resection, but he justly limits its practicability, and protests against the operator's surgical faith being oppressed by "the tyranny of a method." "It may be said, in conclusion, that the subperiosteal operation is excellent in theory, but it is only excellent in practice in selected cases. Although it is the procedure which should be adopted whenever possible, it can never become a routine method of performing excision. It is, indeed, of somewhat limited application. A partial subperiosteal resection may often be carried out in instances where the complete operation is impossible, and there must be few cases in which it is not desirable to take every precaution to preserve the connections of ligaments and the periosteal attachment of tendons." This is most excellent surgical theory, but in what proportion of cases is it possible to preserve these periosteal attachments? In how many chronic cases are tendons and periosteum culture-beds of tubercle and septic organisms? And of what benefit is it to retain a periosteum thickened and fibrous by long inflammatory process, and long destitute of any bone-forming capacity? Mr. Treves admits the undesirability in cases of new growths.

In Chap. 20, Part IV., an excellent account is given of arthrectomy—the so-called *erosion of a joint*—as applied to the knee, and

a valuable suggestion is the application of Mr. Barker's flushing gouges to this operation.

As proof of the careful way the work has been brought out we may add that in this volume the only slips which have caught our observation are—"are" for "is," p. 6; "exomphalos" for "exophthalmos," p. 230; and "*De Carte*," p. 278, as the name of the designer of the tourniquet for the compression cure of aneurysm.

The second volume opens with a section on Plastic Surgery, which is in every respect an admirable one. The general question is dealt with under three broad principles of procedure:—1. The direct union of freshened edges which are brought together, all tension upon the parts having been relieved; 2. The method of gliding or lateral displacement, embracing such operations as those of Burow, Jaesche, Brüns, and Weber; and 3. The method by flap formation, including the well-known Indian and Italian operations. Here, also, is a valuable chapter dealing with the "Relief of Cicatricial Deformities after Burns," in which the methods of Mr. Croft and the admirable results obtained by him are fully described. As, perhaps, some surgeons are as yet unacquainted with the method, it may be well to quote Mr. Treves' description of its salient features. It "consists of raising a strap or bridge of sound skin, which is left attached by its two extremities, but which is separated through the rest of its extent from the subjacent tissues by means of oiled silk." The flap so raised is allowed to granulate and "fatten," during which process it narrows very considerably, while increasing at the same time in thickness and vascularity. "After the process of granulation has been well established, the contracted structures are divided, and the bridge of skin, having been severed at one extremity, is made to occupy the gap formed by such division. The operation is indeed a flap operation, in which the attachment of the flap in its new situation is deferred until granulation has occurred." We have seen wonderful results in the closure of apparently hopeless gaps in several instances, and can cordially recommend all surgeons to try its benefits in appropriate cases. Space will not allow us to deal with the chapter devoted to Rhinoplasty, but it is full of information, and will, we believe, be found to be the most complete account of these procedures that has yet been given in any English text-book. We may point out that in the section dealing with webbed fingers the operation usually known in these countries as "Didot's" is here described as "Diday's," that surgeon being



accorded the priority of description. As the operation is also known as "Nélaton's," we have here a puzzling richness of nomenclature.

Part IX. deals with operations on the neck, and an excellent chapter on Tracheotomy is included. Full accounts are given of Bose's operation, so largely practised in Germany, and of Mr. Whitehead's modification of it, but we must give the preference to the original procedure as more surgical and less likely to inflict damage than the injudicious use of a "raspatory" among the delicate peritracheal tissues. One sentence might be fitly engraved on the mind of every surgeon:—"Tracheotomy affords a striking illustration of the adage 'the more haste the less speed.' The surgeon who proceeds to open the trachea in a precise and deliberate way will have completed the operation before the frantic man, who, with a palpitating heart and a trembling hand, cuts wildly towards the spine, and who appears to be actuated by the unsteady conviction that he must gash something or the child will perish." This picture is no exaggeration of scenes of which, we regret to say, we have been eye-witnesses.

In treating of thyroidectomy, complete or partial, it is surprising to find no reference made to the operation of division of the isthmus of the thyroid body alone—a procedure which in the hands of some surgeons has yielded most excellent results and is certainly deserving of notice in a manual of operative surgery. This is an omission which it is to be hoped will be rectified in future editions.

The various operations for the removal of the tongue—Whitehead's, Kocher's, &c.—are fully detailed, and it is interesting to note, in connection with the discussion which took place at the beginning of this session in the Surgical Section of the Royal Academy of Medicine in Ireland, Mr. Treves' deliberately expressed opinion: "I believe that the removal of the tongue with scissors after the linguals have been ligatured in the neck provides the best method of excising the organ" (p. 189); and on p. 202 the advantages gained by this method are admirably discussed in detail in a reply to Mr. Jacobson's objections to its performance.

Knowing how specially Mr. Treves' work has been associated with abdominal surgery, one naturally turns with intensified interest to that section in which his latest conclusions are embodied. And how fully these are set forth may be gathered from the fact that Part X., dealing with "Operations upon the Abdomen," occupies 294 pages of the second volume. Only one or two debated points can be touched upon here. In



supra-vaginal hysterectomy for myoma Mr. Treves unhesitatingly declares in favour of the intra-peritoneal method of treating the pedicle:—"In comparing these two procedures it may at once be said that the intra-abdominal method is the better, is the more perfect, and is the one more completely in accord with the soundest principles of operative surgery." And to this opinion we hope all philosophical surgeons will soon subscribe. An excellent and clear account of Senn's method of intestinal anastomosis, and of Sach's modification of it, will also be found in this section, though apparently the author regards the method as of very limited application. As regards the relative value of lumbar and iliac colotomy Mr. Treves is disposed to agree with the conclusions put forward by Mr. Bryant in his Bradshawe lecture—an opinion, we are glad to think, daily upheld by fewer surgeons. Chapter 15 contains a very complete account of "Operations on the Liver," but a few years ago a blank page in surgical literature.

In the portion of Part XV. that treats of cerebral surgery we are glad to find references given to Dr. Birmingham's admirable studies on the relative positions of the mastoid antrum, lateral sinus, &c., as we believe these are the best and most accurate guides that have yet been laid down in dealing with conditions in this region requiring operation.

Part XVI., "Operations on the Thorax and Breast," contains a good, if somewhat brief, account of the principal surgical procedures in this field, and brings the work to a conclusion. Estlander's operation, and the subject of "Incision and Drainage of Lung Cavities," are here discussed, and the conclusions arrived at are mainly based on Mr. Godlee's admirable lectures on these operations.

We have now brought to a close our survey of these volumes, and we can heartily congratulate Mr. Treves on the use to which he has put the "leisure" obtained "during the last four years." We have carefully read the work, and have no hesitation whatever in recommending it as the best manual of operative surgery in the language. It is the work of a practical and progressive, as well as philosophical and conservative, surgeon, and for soundness of teaching and lucidity of phrase and expression is, in our opinion, without a rival. It will deservedly add to the high reputation which Mr. Treves has already earned by solid and earnest work in many fields of surgery.

*The Treatment of Typhoid Fever, and Reports of Fifty-five consecutive Cases with only one Death.* By JAMES BARR, M.D., Physician to the Northern Hospital, Liverpool; Medical Officer of her Majesty's Prison, Kirkdale, &c. With Introduction by W. T. GAIRDNER, M.D. London: H. K. Lewis. 1892. Pp. 212.

THE important feature of this book is the account of Dr. Barr's treatment of serious cases of typhoid by means of a continuous bath in which the patient is immersed for days. It, however, contains, as well, Dr. Barr's views as to diet, drugs, and general management.

After the introduction there is a historical sketch of the treatment of the continued fevers from the time of Sydenham; most prominence is naturally given to the various antipyretic methods. Dr. Currie, who used cold affusion very largely, and laid down very careful rules for its adoption in suitable cases, is largely quoted. Dr. Barr shows that the treatment by cold water is by no means new. Dr. Robert Jackson used it as early as 1774, his practice having been to give the patient a warm bath, and after that to pour cold water over him. Currie adopted the treatment by affusion of cold water in 1787; and although, as Dr. Barr shows, it has been employed with good results by various physicians from time to time ever since, it has been recklessly and foolishly used by others, and has never met with general adoption.

Dr. Barr describes his own method of management at considerable length. He begins the treatment with a purge of 2 grains of calomel, and when there is constipation during the course of the illness, he repeats the same remedy in about half-grain doses, occasionally also using enemata. He strongly advocates the routine administration of intestinal antiseptics; having tried many drugs, he now prefers salol, giving to an adult 10 grains every four hours, and if much diarrhœa is present, adding 10 grains of bismuth salicylate to each. If there is, on the other hand, constipation, one-twelfth of a grain of calomel may be added to each dose of salol. In none of the new antipyretic drugs has Dr. Barr any faith as far as their use in typhoid is concerned.

Dr. Barr's views with regard to the diet of typhoid patients differ considerably from those held by most physicians. "During the febrile stage the food, whatever it be, should be liquid, and should be administered every two or three hours. I place no limit on the quantity of liquid nourishment, so long as it is retained

in the stomach and properly digested; but for an adult I usually find that about four pints of milk, eight to sixteen ounces of bread, and two ounces of butter, are appropriated daily, and there is no use in giving any diet which is not assimilated. The bread should be boiled with the milk, or it may be peptonised, and the butter added. In the tank the appetite soon becomes very good, and these quantities do not suffice."

The section on antipyretic treatment is chiefly devoted to a description of the author's tank and its results. The apparatus is fully described; for all details we must refer our readers to the original. As far as we can gather from the description, Dr. Barr would put all severe cases into this continuous bath. The water is kept at a temperature of between 90° and 98° F. The patient is moved as little as possible, and is enjoined to pass his urine and fæces into the water, but as his buttocks rest just over the large discharge pipe of the tank, the water can be kept fairly clean. Some cases, however, were raised out of the water to have their bowels moved. The patients remained a variable time in the tank—some only a few days, others as long as thirty-one days. Under the influence of the tank-treatment Dr. Barr says the temperature is lowered, vaso-motor tone is improved, bronchitis and congestion of the lungs lessen and soon disappear, the tongue becomes moist and clean, appetite and digestion improve, and the diarrhœa lessens, delirium disappears, and the general well-being of the patient greatly improves.

The rest of the book—rather more than half of it—is occupied with detailed notes of 55 cases of typhoid treated by Dr. Barr in accordance with the principles laid down in this work. Of these 55 cases only one died—a remarkable record.

This is one of the most original works on typhoid fever that we have read. Dr. Barr is no mere follower of others; he has struck out a line for himself, and his results have amply justified his boldness. Few physicians will read this book without being the wiser for having done so. Even though we may not approve of all Dr. Barr's methods of treatment, and though we might shrink in practice from following his directions, nevertheless it is always well to know what able and learned men are doing, and to consider whether the treatment which we are ourselves satisfied with is after all the best one we can possibly adopt.

We can warmly recommend Dr. Barr's work to the careful consideration of our readers.

*Report of the Hyderabad Chloroform Commission.* With a Preface by SIR ASMAN JAH, K.C.I.E., Prime Minister of Hyderabad. Bombay: Printed at the *Times of India* Steam Press. 1891.

THE first feeling of every medical reader of this quarto of 400 pages cannot be other than that of gratitude to his Highness the Nizam of Hyderabad for his munificent generosity in defraying the expenses of the Hyderabad Chloroform Commissions. Afterwards the thoughts will naturally arise, to wit:—Is the evidence conclusive in favour of chloroform, or are the physiological experiments on the lower animals and the numerous and accurately noted clinical cases open to any other conclusion than that arrived at by the Commission? And are native Indians protected by racial characteristics or climatic conditions from the pernicious effects of chloroform?

Acting on the doctrine of probabilities there are no good grounds for thinking otherwise than favourably of chloroform after its successful issue from all the tests applied. No anæsthetic has been submitted to so many and such various tests as chloroform. The second Hyderabad Commission has performed its work with a fulness and completeness hitherto unknown; and the fact that the decision of the Commission coincides with that of the great majority of the medical profession, both at home and abroad, is eminently satisfactory, and well calculated to allay the public anxiety as to the value of the drug which enthusiastic etherists created.

One good has resulted from the labours of the Commission that must advantage the public—to wit, the teaching to students and practitioners the nature and mode of administration of the more used anæsthetics. That chloroform cannot, no more than any other powerful therapeutic remedy, be administered by the ignorant or careless has been emphasised in too marked a manner to allow of the lesson being neglected.

The Report of the Commission was held back, as stated by Sir Asman Jah, in compliance with the wish of Surgeon-Major Lawrie, “that the experimental data of the Commission should be subjected to the test of prolonged clinical experience;” and with a liberality of thought Sir Asman wishes that it may be submitted to “that free criticism and discussion that are essential to the final acceptance of the principles confirmed or brought forward by the Commission.”

Surgeon-Major Lawrie, in his statement of the “origin of the Commission,” makes the important and honourable announcement



that the "Commission was greatly encouraged in this work by the personal interest shown in it by his Highness the Nizam, who, accompanied by his staff, visited the laboratory on two special and memorable occasions." And further adds:—

"Two commissions to examine into the alleged dangers of chloroform have been appointed by his Highness the Nizam's Government. The first Commission, which was appointed in 1888, consisted of Surgeon Hehir, I.M.D., President, and two members, Messrs. J. A. Kelly, L.R.C.S. & P. (Ed.), and A. Chamarette, L.M.S. This Commission was applied for by Surgeon-Major Lawrie, Residency Surgeon, Hyderabad, because, having always believed in the truth of Symes' teaching that chloroform can be used judiciously so as to do good without the risk of evil, he desired to show by experiments upon dogs that in death from chloroform the respiration always stops before the heart. This point having been proved, the second Commission was applied for, because it was felt that Symes' principles, which both experience and experiment had shown to be practically sound, must be founded on a firm physiological basis."

Such was the genesis of these Commissions which have done so much to restore chloroform to professional and public favour.

The experiments of the Commission were conducted on the following lines:—

"1. The attention of the Commission should be specially devoted to the effects of chloroform on the circulation and respiration.

"2. The chloroform should be administered generally in the same way as it is ordinarily given to patients in the Azful Gunj and Residency Hospitals.

"3. The dose and rapidity of administration should be varied in every possible way, and the admixture of air with the chloroform should also be varied.

"4. At least 100 full-grown dogs should be killed with chloroform, and the points to be specially noted should be—

"(a) The time taken to bring the dog fully under the influence of the anæsthetic.

"(b) The interval between this and the stoppage of respiration and cessation of the pulse and heart's action.

"(c) Whether the heart is directly affected by chloroform, and whether it ever ceases to beat either in slow or rapid poisoning before the respiration stops.

"(d) The effects of artificial respiration commenced directly the respiration stops, and at varying intervals afterwards.

"5. The details of procedure will be left to the Commission, and you



are requested to submit a report of the work of the Commission at any time convenient to yourself before the termination of the official year."

Admirable as this scheme is—and for testing the lethal properties of the anæsthetic it would be difficult to formulate a better one—the omission of the use of oxygen gas and the inversion of the animal as restorative methods in cases of suspended respiration are greatly to be regretted. Indeed, when carrying out such exhaustive physiological experiments, the testing of the better known restoratives, such as strychnin, amyl nitrite, and atropin hypodermics might have been undertaken by the Commission.

The first Commission concluded that "chloroform may be given to dogs by inhalation with perfect safety, and without any fear of accidental death, if only the respiration, and nothing but the respiration, is carefully attended to throughout, and the second Commission confirms the opinion.

It is to be hoped that, if these physiological experiments are repeated, the value of oxygen as an antidote to anæsthetic narcosis will be tested. The testimony in its favour as an antidote to anæsthetic necrosis comes from such well-known writers as Jackson, Blanchet, Duroy, Faure, Gianetti, Ozanam, Perrin, Ludger-Lallemand, P. Bert, and others.

As an antidote to carbonic oxide and carbonic dioxide there is the testimony of Faure, Gianetti, Linas, Créquy, C. Paul, Coignard, Hayem, and others.

Davy, whilst testing carbo-hydrogen gas, found out its value, and since that Sierking, Esdaile, and others, have confirmed Davy's statement.

Sewage gas has also its poisonous effects counteracted by oxygen, as shown by the cases reported by Créquy, Limousin, Faure, and Ozanam.

It may, however, be answered that the Hyderabad Commission had but one duty to perform—to wit, to learn how chloroform killed. True, but the scientists went a little further. They resuscitated some of the asphyxiated animals, and noted the effects of artificial respiration. Perhaps, however, it is better that the oxygen-chloroform experiments should, as Jackson did with the oxygen-ether, be made the work of a special occasion.

On the third page of the Report we are reminded that the volume before us is a history of the origin and incidents of the Commission as well as a scientific record of the work and the deductions from it; and we have copies of "leaders" of medical

journals and of their correspondence on the chloroform controversy, matter which might well have been delegated to the appendix.

Those who take a keen interest in the anæsthetic controversy read all sides of the question, and are quite familiar with the names of the principal combatants, and know even the less distinguished writers on the subject. Historically the record may be useful, but the historical value of the leaders and letters would in no way be diminished by a place in the appendix.

Paragraph 11, page 9, is occupied with a statement of American opinion on the relative value of chloroform and ether, and, like many others, Dr. Lawrie confounds the New England States with the United States. In so doing he reminds us of those politicians who in describing Ireland leave out Ulster. The New England States are not the United States, neither is their opinion the American opinion. The men who raised American surgery to its present high standard were Southerners, men of the Cotton States; and when the State-right War occurred the Confederate surgeons exhibited a skill and resourcefulness, and produced better results, than up to that time any military surgeons ever recorded, and all this was done amidst the greatest difficulties. The men who have this splendid record to their credit without exception are chloroformists. Two of the most distinguished of these Southern surgeons have expressed their views on the chloroform questions in no uncertain manner, as may be seen by reference to Mr. Foy's book, "*Anæsthetics: Ancient and Modern.*" That the Eastern States advocate ether in season and out of season, and that they are intolerant of any difference of opinion, is notorious, but, nevertheless, the United States refuse to be dominated by a noisy, didactic faction, and with the majority of American surgeons chloroform continues to be the favourite anæsthetic. It is just possible that Professor Woods' pronouncement in favour of ether was inserted by Dr. Lawrie to give his readers the benefit of reading the strong and, we think, erroneous statement that "hundreds of utterly unnecessary deaths have been produced by the extraordinary persistence in its use by a portion of the profession."

The great value of the Commission depends not alone on the many and varied experiments performed, but on the fact that they tried "as far as possible to give the experimental data from which their conclusions are derived, thus enabling all future investigators to utilise their data, and allowing of a criticism both as to the experiments performed and the conclusions deducted from them."

The Commission divided into two committees—one, the committee, was composed of Drs. Lauder Brunton, Bomford, Hehir, and Chamarette; the other, the sub-committee, was composed of Dr. Rustomji, Mr. Kelly, and Dr. Gay.

The committee first of all performed 27 experiments to test the work of the first Commission. The sub-committee worked in the same room under the supervision of the committee.

The experiments of the sub-committee, together with the first 28 performed by the committee, form a total of 430. In these experiments 268 dogs and 31 monkeys were killed outright, and 86 dogs and 39 monkeys were subjected to artificial respiration at varying intervals after the natural respiration had been arrested with chloroform.

The animals which were killed had chloroform administered to them in every possible way and under every conceivable condition. A large number of dogs were killed just as they were caught in the bazaars; others at various intervals after having heavy meals of meat or farinaceous food or fat; others fasting; others after the administration of Liebig's extract of meat, coffee, rectified spirits of wine, or ammonia. Most of these animals were healthy, but some of them had cardiac disease, and in many the heart and other organs were rendered fatty by the previous administration of phosphorus.

In a large number of cases morphin, strychnin, and atropin, singly and in combination, were given by subcutaneous injection at intervals before the inhalation was begun. Chloroform was given with and without inhalers in the vertical and recumbent positions; in glass and wooden boxes; in large and small doses; by being pumped into the trachea with bellows; and, in fact, in every way that could suggest itself to the Commission.

The results in one respect are uniform:—

“In every case where chloroform was pushed the respiration stopped before the heart. The movements of the heart were in the first 66 cases of the sub-committee tested by auscultation, but afterwards by a needle inserted through the chest wall into the organ, and the thoracic cavity was laid open when doubt existed.”

In the majority of uncomplicated cases, which include those fed in different ways before inhalation, the heart ceased to act in from two to six minutes after stoppage of the respiration. In one uncomplicated case the heart's action ceased within one minute

after the breathing stopped. The heart ceased within one minute after the respiration stopped in two cases where the inhalation was very slow and prolonged, in four cases complicated by asphyxia, and in one where the subcutaneous injection of morphin (gr.  $\frac{1}{2}$ ) and strychnin (gr.  $\frac{3}{1000}$ ) was administered beforehand. The maximal time the heart continued to beat after the respiration ceased, in the experiments of the sub-committee, was eleven minutes in a dog and twelve in a monkey.

The effects of chloroform do not appear to be interfered with or much influenced by any of the variations in the method of preparation of the animal for, or of the administration of, the anæsthetic. There are four general exceptions to this statement—

- (1) In very slow administration.
- (2) In prolonged administration.
- (3) In cases complicated with partial asphyxia.
- (4) In one case where one-third of a grain of atropin was administered before the inhalation.

In these cases the heart stopped very soon after respiration ceased; and in all cases where the inhalation was accompanied by struggling, the animals became insensible with unusual rapidity. In these cases, also, the interval between the cessation of respiration and the time of possible restoration by artificial respiration was shortened.

As regards the restorative effects of artificial respiration, the sub-committee found it nearly always successful if commenced within 30 seconds after the respiration ceased; very seldom successful if commenced between 30 and 60 seconds after; and always unsuccessful if not begun till after 60 seconds. In 44 cases in which artificial respiration proved successful it was commenced on an average 28.2 seconds after natural respiration ceased; in 38 unsuccessful cases the average was 31.5 seconds.

The sub-committee formed the opinion that artificial respiration was less successful in restoring the respiration after it had been stopped by chloroform in cases where a subcutaneous injection of morphin was administered before the inhalation was commenced. There were 18 cases in which this was tried. In the first 6, artificial respiration was commenced 8 seconds after cessation of natural respiration; of these, 5 died. In 3 cases artificial respiration was begun 15 seconds after the natural respiration ceased; and of these, 2 recovered, and 1 died. In 3 cases in which artificial respiration was commenced 20 seconds after the respiration stopped,

2 out of the 3 died. And lastly, in 6 cases where artificial respiration was not commenced till 30 seconds afterwards, 5 died, and 1 was revived. The average of those cases that were revived was 17·6 seconds, and of those that died in this series, 26·4 seconds.

To the practical surgeon the above experiments are, perhaps, the most valuable of the series. With such results before him the operator must recognise the supreme importance of attention to the respiratory function, and the necessity to its restoration to the normal on the slightest evidence of its failing. It may be also said to stop the use of morphin and atropin hypodermic injections, for even those who up to this have preceded chloroformisation by hypodermics of morphia will be unwilling to incur the risk of censure from the public should any chloroform fatality occur.

The stress laid on the risks associated with the struggling of the animal whilst being anæsthetised cannot but be approved. Struggling during anæsthetisation can, as a rule, be avoided by not forcing the anæsthetic at the beginning of the anæsthetisation, and if it occurs during the process later on the anæsthetic should be withheld until the struggling ceases. Some patients after a few violent struggles suddenly become completely under the influence of the anæsthetic, and, as the Commission's labours show, such persons are in imminent danger, their respiratory function being with more difficulty restored than in those whose anæsthetisation was unattended by struggling.

Experiments with recording apparatus are dealt with in Part III.

All the manometer tracings were photographed, and these photographs remain for all future inquirers who are so inclined to test the accuracy and value of the experiments and the correctness of the deductions that the Commission arrived at.

The explanatory notes were written partly at the time of, and partly after, each experiment, thus avoiding errors that might arise from forgetfulness or the loss of memoranda, and giving a much more interesting statement than could be produced otherwise.

For these experiments dogs, monkeys, horses, goats, cats, and rabbits, were pressed into service, and not alone chloroform but ether and the A.C.E. mixture were used.

On page 16 the objects of the Commission are thus stated:—

1. To test the suitability and safety of chloroform as an anæsthetic. The experiments with ether and the A.C.E. mixture were



instituted principally for the sake of comparison with chloroform on certain points, and it is not pretended that they afford a complete exposition of the action of these agents on the system.

2. The effect of pushing the above-named anæsthetics (*a*) to a dangerous degree, and more especially until the respiration ceases, (*b*) until death results.

3. The modification in the effect of these anæsthetics which result from—(*a*) asphyxia in varying degrees and produced by various means, (*b*) from the use of drugs such as morphin, atropin, physostigmin, and others.

4. The reality or otherwise of the alleged liability during ordinary chloroform administration to the occurrence of primary or secondary syncope or stoppage of the heart, brought about either by shock, or through fatty or weak heart, or by hæmorrhage, or by changes in the position of the body. To investigate these points, in the first place, a large number of operations which are reported to be especially dangerous in reference to shock were performed in every stage of anæsthesia, and numerous experiments were also made to show the effect of direct irritation of the vagus; secondly, a number of animals were dosed with phosphorus before they were experimented on. This caused weakness of the heart by fatty degeneration of its fibres, but, at the same time, other complicated changes in the whole of the organs of the body not met with in the condition known as fatty heart in human beings. On the other hand, there are conditions often met with in the fatty heart, such as changes in the coronary vessels, which were not produced by the phosphorus.

5. The effect of the anæsthetics above mentioned upon different animals, more especially upon monkeys, as the nearest approach to human beings.

The conclusions arrived at by the Commission are the following, which, for those who may not have an opportunity of seeing the Report and because of their extreme importance, are here given in full:—

“1. Chloroform, when given continuously by any means which ensures its free dilution with air, causes a *gradual* fall in the mean blood-pressure, provided the animal's respiration is not impeded in any way, and it continues to breathe quietly without struggling or involuntary holding of the breath, as almost always happens when the chloroform is sufficiently diluted. As this fall continues the animal becomes insensible, then the respiration gradually ceases, and, lastly, the heart stops beating. If the

chloroform is less diluted, the fall is more rapid, but is always gradual as long as the other conditions are maintained; and however concentrated the chloroform may be, it never causes sudden death from stoppage of the heart. The greater the degree of dilution the less rapid is the fall, until a degree of dilution is reached which no longer appreciably lowers the blood-pressure or produces anæsthesia.

"2. If the inhalation is interrupted at any stage, the fall of pressure still continues at a rate which depends altogether on the rapidity of the fall while the chloroform was being inhaled. This after-fall is probably due to absorption of a portion of the residue of chloroform in the air-passages after the stoppage of the inhalation. In this way it often happens, if the chloroform is given rather freely, that though the respiration may be going on when the chloroform is discontinued it afterwards stops.

"3. If the administration of the chloroform is stopped at an early stage the pressure very soon begins to rise again, and gradually becomes normal; but if the chloroform is pushed further, there comes a time, not easy to define, when the blood-pressure and respiration will no longer be restored spontaneously, although the heart continues to beat after the inhalation is stopped.

"4. If the fall has been very gradual, it may occasionally happen that the respiration stops completely, and still the blood-pressure rises again, the respiration recommencing spontaneously in the course of the rise. In the same way, when the inhalation has been discontinued, the respiration may stop during the after-fall of the blood-pressure and begin again spontaneously. As a rule, if the respiration has stopped, or even become slow and feeble, at the time when the inhalation is discontinued and artificial respiration is not resorted to, the fall in blood-pressure will continue until death ensues.

"5. There are two conditions which frequently disturb the fall of the blood-pressure—viz., struggling and holding the breath, and it is only by great care that they can be avoided in animals.

"6. Struggling, independently of any change in the respiratory rhythm, appears generally to increase the blood-pressure. In one case of a dog much weakened by phosphorus the pressure fell every time he struggled.

"7. When struggling is accompanied, as it often is, by acceleration of the respiration and pulse, especially if the respiration is deep and gasping, it leads to a more rapid inhalation of chloroform, and consequently to a more rapid fall of blood-pressure and a greater after-fall. In order to keep the chloroform cap or inhaler in its place during the animal's struggles the administrator is obliged to hold it down more tightly over the nose and mouth, and this materially assists in hastening the rapidity of the inhalation, and consequently the fall in blood-pressure.

"8. The effect of involuntarily holding the breath, which, as anybody can prove by experiment on himself, must happen when an inhaler saturated with chloroform is first applied to the face, is much more remarkable, the pressure often falling with great suddenness, while the heart's action is markedly slowed. As soon as the animal draws breath again the pressure rises as suddenly as it fell, but the gasping respiration which succeeds then causes very rapid inhalation of chloroform with immediate insensibility and a rapid fall of blood-pressure, which quickly becomes dangerous.

"9. The combination of struggling with alternate holding the breath and gasping, which results if chloroform is applied closely to the face without sufficient dilution with air, causes violent fluctuations, and then a speedy fall of the blood-pressure, which very soon leads to a dangerous depression with deep insensibility and early stoppage of the respiration. The after-fall under these circumstances is rapid and prolonged. It is this combination of events which causes struggling animals to go under chloroform so quickly.

"10. The effect of holding the breath may occasionally cause a temporary fall of blood-pressure after the chloroform inhalation has been stopped, or even when the animal is quite out of chloroform. The fall is recovered from directly the animal breathes again.

"11. Slight continuous asphyxia, such as is produced by pressure on the neck by straps, a badly-fitting muzzle, or hindrance of the chest movements by the legs being too tightly bound down, gives rise to exaggerated and irregular oscillations of the blood-pressure, and slowing and irregularity of the heart's action. If it leads to, or is accompanied by, deep gasping inspiration, it is apt, like anything else which causes this, to increase the intake of chloroform and bring about a rapid decline of blood-pressure.

"12. Complete, or almost complete asphyxia, as by forcibly closing the nose and mouth or closing the tracheal tube after tracheotomy, has an effect similar to, but more marked than, that produced by holding the breath, and the character of the trace corresponds precisely to that produced by irritation of the peripheral end of the cut vagus. The pressure falls extremely rapidly, sometimes almost to zero, and the heart's action becomes excessively slow or even stops for a few seconds. If the Fick trace of experiment No. 148 be compared with the photographic reproduction of trace A of the Glasgow Committee, it will be seen that they are identical, and that the slow action of the heart with great fall of pressure, which the Glasgow Committee attributed to some capricious action of chloroform upon the heart, was undoubtedly due to asphyxia.

"13. The effect of asphyxia is the result of stimulation of the vagi. The proof of this is—(a) that the trace corresponds exactly, as stated above, to that produced by direct irritation of the vagus; (b) division of

both vagi entirely abolishes it; and (c) the administration of atropin, which paralyses the vagus, also abolishes it.

“14. In trace 158 (Fick 4), which was taken during asphyxia after a full dose of atropin, it will be seen that there is an alternately slow and rapid pulse according to the phase of the respiratory movement, but no continuous slowing of the heart as in vagus irritation. But there was still a distinct fall of pressure after the atropin when the breath was held, and it was thought that the slowing of the pulse above noted in this condition might be due to the disturbance of the heart from tension in the pulmonary vessels in the absence of respiratory movement, rather than to irritation of the vagi. To test this point, Experiment No. 184 was instituted. In this experiment the dog's chest was forcibly inflated with bellows connected by a tube with the trachea, and the effect of this proceeding was to cause a fall of pressure and slowing of the heart exactly the same as an involuntary holding of the breath. The dog was then poisoned with atropine, after which inflation of the chest still caused a fall of pressure, but without slowing of the heart. The fall of pressure must be in some degree independent of vagus irritation, which however usually accompanies it.

“15. It only remains to be considered whether the slow action or temporary stoppage of the heart, with great fall of pressure, produced by vagus irritation, is in itself an element of danger in chloroform administration, and if it is not, wherein the danger actually lies.

“16. The experiments in which deliberate irritation of the vagi was carried on during anæsthesia show unmistakably that irritation of these nerves diminishes rather than enhances the danger of anæsthetics. The effect on the heart is never continuous, and as the vagus becomes exhausted, or when the irritation is taken off, the blood-pressure rises again, as it does when the same result is produced by asphyxia. The slowing of the heart and circulation, which is produced by irritation of the vagus by any cause, such as holding the breath in chloroform administration, retards the absorption and conveyance of chloroform to the nerve centres, just as holding the breath, whether voluntary or involuntary, prevents chloroform from entering the lungs; and, of itself, slowing or temporary stoppage of the heart in chloroform administration, is not dangerous.

“17. To answer the second part of the last question in paragraph 15 is easy enough, if it is kept in mind that the effect of vagus irritation upon the heart is never continuous; and in chloroform administration, as the pressure rises again after the slowing of the heart and temporary fall of pressure produced by any form of asphyxia, violent respiratory efforts with bounding heart's action lead, as in the case of struggling, to a rapid and dangerous inhalation of chloroform, and consequent rapid and dangerous decline in blood-pressure. It is, in fact, the temporary



exhaustion of the vagi after stimulation that is to be feared, and not the actual stimulation as long as it is continued.

“18. In accordance with this fact, it will be found that in chloroform administration neither holding the breath, even if involuntary, nor vagus inhibition, can be kept up beyond a certain time; and if the chloroform is not removed from the face, one or both of two things may happen—(1) when the animal breathes against it, takes deep and gasping inspirations, the lungs become filled with chloroform, and an overdose is taken with extreme rapidity; or (2) when the restraining influence of the vagus is taken off the heart, through the irritation ceasing or the nerve becoming exhausted, the heart bounds on again, and the circulation is accelerated in proportion. The blood then becomes quickly saturated with chloroform, and an overdose is at once conveyed to the nerve centres. The theory which has hitherto been accepted is, that the danger in chloroform administration consists in the slowing or stoppage of the heart by vagus inhibition. This is now shown to be absolutely incorrect. There is no doubt whatever that the controlling influence of the vagus on the heart is a safeguard, and that it is the exhaustion of the nerve which is dangerous.

“19. It can be readily understood how a condition in which the pulse is rapid and bounding with high blood-pressure leads to more rapid absorption of chloroform from the lungs, and a more rapid propulsion of the chloroformed blood to the medulla oblongata, and consequently to a more rapid paralysis of the respiratory and vaso-motor centres and precipitous fall in the blood-pressure. Such a condition is produced in some cases by ether, or by division of both vagi, or by a full dose of atropine. Not only is the poisoned blood carried more swiftly to the vital centres in these cases, but added to this there is the fact that, as the heart is already doing its utmost before chloroform is given, it is unable to stave off by increased work the fall in pressure that occurs when the vaso-motor centre is paralysed. On the other hand, it seems clear from Experiment 92 that the direct action of chloroform upon the heart is not the cause of the fall of pressure that occurs when it is inhaled.

“20. In Experiment No. 92, repeated injections of 20 m. of chloroform were made into the jugular vein, and its effect was not to paralyse the heart, but to produce anæsthesia and a gradual fall of blood-pressure, exactly as if the chloroform had been inhaled. In Experiment No. 72, after a considerable amount of ether had been injected into the jugular vein, and bounding condition of pulse had been produced, the effect of injecting chloroform into the jugulars was much greater, and the fall of blood-pressure much more rapid and dangerous than in the case when chloroform alone was injected. Granting, then, the truth of Ringer's conclusions from experiments on the frog's heart (which have not been



repeated and confirmed by the Commission) that chloroform has a gradual paralysing effect upon the heart's tissue, we must conclude that such an effect, in the degree in which alone it could occur in the practical inhalation of chloroform, would rather be a source of safety than of danger.

"21. The Committee discussed the advisability of cutting the vagi some time previous to experimenting on the blood-pressure with chloroform. The effect of this procedure is to cause continuous rapid action and tendency to exhaustion of the heart, as well as to degeneration of the terminal branches of the nerves in the heart if the animal live sufficiently long. Such experiments might be of some interest theoretically, and also have had a practical bearing on the condition of the heart in certain cases of chronic alcoholism; but the Committee decided not to perform them, as it considered the end to be gained did not justify the pain they would have inflicted.

"22. In Experiment No. 178, the case of a dog that had had morphine, remarkable slowing and even temporary cessation of the heart's action occurred again and again at the same moment as the respiration stopped, but the heart invariably recovered itself and began again to beat regularly before any steps were taken to restore the animal, and without any respiration occurring. We find in this case that it was possible to restore the animal, even after unusually long intervals had been allowed to elapse between the cessation of the natural and the commencement of artificial respiration. The failure of the heart, if such it can be called, instead of being a danger to the animal, proved to be a positive safeguard by preventing the absorption of the residual chloroform and its distribution through the system.

"23. The effect of artificial respiration after the natural respiration has ceased is to cause an alternate rise and fall of small amount in the blood-pressure, the trace thus formed on the drum being a coarse imitation, altered somewhat by the shaking of the table, of the natural respiratory curve. The difference consists chiefly in the fact that the artificial rise and fall is more abrupt than in the natural breathing, and that the rise always coincides with expiration or compression of the chest. After artificial respiration has been continued for a certain time the blood-pressure begins to rise again, and a little later natural respiration returns.

"24. The effect of artificial respiration in restoring an animal after the respiration had stopped was always marked. In a few exceptional cases, such as No. 159, a phosphorus dog, and No. 142, a horse which had an enormous overdose, although the artificial respiration was commenced as soon as possible after the breathing was noticed to have stopped, it was not successful.

"25. Complete stoppage of the respiration always means that an over-

dose has been administered, and the overdose has been so great as to render restoration impossible. It is impossible to say whether, after chloroform has been pushed and then discontinued, the respiration will be restored spontaneously or not, and it is never in any case certain that artificial respiration will restore the natural respiration and blood-pressure, no matter how soon it is commenced after the respiration stops. A good deal depends on the amount of the after-fall; in some cases, even after the respiration has been restored, the pressure continues to fall and respiration again ceases, and artificial respiration then fails. We thus find respiration restored by artificial respiration while chloroform is still being absorbed, and this shows that artificial respiration does not merely pump the chloroform out of the blood, but exerts considerable influence in exciting the natural respiration.

"26. The time which elapses before artificial succeeds in restoring natural respiration varies very greatly. In one case, No. 116, it was continued for eleven minutes before the first natural gasps commenced. This period is undoubtedly prolonged in some cases by a condition of physiological apnea, which renders it unnecessary for the animal to breathe. Consequently, whenever the pressure rose considerably during artificial respiration it was stopped, and the animal then generally breathed after a few seconds.

"27. The time which may be allowed to pass with impunity before commencing artificial respiration also seems to vary considerably. This point was not particularly attended to in the manometer experiments, except in Experiments 162 and 178, which were instituted to test the truth of the opinion formed by the Sub-Committee, that morphine had some slight action in impairing the efficiency of artificial respiration. In these cases the commencement of artificial respiration was postponed for more than two minutes after respiration ceased, and was successful; but this is certainly far above the average interval that can be allowed with safety. The success of artificial respiration restoring the blood-pressure is, in some cases, very remarkable. In Experiment No. 40, the heart had apparently ceased beating, and the dog was believed by everyone present to be dead, and yet recovered with artificial respiration. The success in this instance is due to the fact that concentrated chloroform had been pushed for two minutes regardless of the breathing, and the stoppage of the heart was due to stimulation of the vagus through asphyxia. The animal was therefore easily restored, as he was suffering more from asphyxia than from chloroform poisoning.

"28. It corresponds to these cases, which are so often reported, in which dangerous failure of the heart is said to have occurred some minutes after the administration of chloroform had been discontinued, and which are sometimes restored, and sometimes not, by artificial respiration. There is nothing at all sudden about the failure of the heart in these cases,

but the attention of the chloroformist, which has been wandering, is suddenly called to the fact that the patient is apparently dead. When the animal was really dead, it was found in some cases that artificial respiration still maintained a small amount of mean pressure in the manometer. In others the pressure seemed to fall to the zero line between each compression of the chest.

"29. The dangers of too vigorous respiration were illustrated in some of the accidental deaths. In one case the liver was badly ruptured, and in another the pleural cavity was full of blood. In three cases, Nos. 80, 92, and 103, rhythmical movements of the diaphragm were noticed after the heart had ceased beating, and after the chest had been opened. It is remarkable that in two of these cases the splanchnic nerve had been divided. The last was a case where chloroform had been injected into the jugular, and in this case there was a synchronous movement of the jaw as well. In all, death and stoppage of the heart had occurred gradually, and in No. 103 the heart was still irritable. These movements cannot be called respiration, though the last gasp of a dying animal—that ineffective jerk of the diaphragm, which is such a fatal symptom, is very likely in many cases a movement of the same character. Similar movements, which were continued much longer, occurred in Experiment No. 104, after the thorax was opened, while the heart was still beating. Still more remarkable convulsions of the muscles of the jaws, ears, and forefeet occurred in Experiment No. 167, in the case of a dog that had been poisoned with nicotine. These movements continued at regular intervals for more than ten minutes after death, and were sufficiently forcible to jerk the handles of a pressure forceps fixed on the end of the tongue off the table at each spasm. In a rabbit, in Experiment No. 153, the auricles of the heart continued to beat very rhythmically for three hours after it was supposed to be dead from chloroform, and its thorax had been laid open. Irritability of the heart after death had been noticed in many cases, but seemed to be most marked in cases where ether had been used.

"30. Chloroform injected into the heart through the jugular vein did not cause clotting of the blood, as was the case when ether was injected.

"31. In the course of the experiments of the Committee various drugs were administered, in order to ascertain if they had any effect in modifying the action of chloroform. The result showed that none of them had any effect in preventing the typical descent of the blood-pressure that occurs when chloroform is inhaled. Atropine, when given in a dose sufficient to paralyse the vagi, of course, prevents the action of these nerves in asphyxia, and, by increasing the action of the heart, it appears to cause a more rapid descent in the blood-pressure when chloroform is inhaled, as has been already explained. Morphine appeared, in No. 162, to render

the rise in blood-pressure that occurred when the chloroform was discontinued slower and less complete, and to bring about a more or less permanent condition of anæsthesia. It may be noted that the animal noted in this experiment was a monkey, and in other experiments with monkeys, when no morphine had been given, it was remarkable that the animal, after a few inhalations of chloroform, would often lie quite quiet in a state of semi-insensibility for a long time without further inhalation. Still this condition was much more marked in Experiment No. 162 than in any of the others. No action of this kind was noticed in the dog, No. 178, but other experiments (Nos. 90 and 94) showed that pariah dogs were very indifferent to the action of morphine, and it is probable that the dose of morphine in this case was insufficient to bring about the condition noted in the monkey. The peculiar behaviour of the heart in No. 178 was not the result of the previous administration of morphine, for a similar phenomenon had occurred in other cases (49 and 60), in which no morphine had been given. Experiments Nos. 162 and 178 prove conclusively that morphine had no effect in shortening the period that may be allowed to elapse between the cessation of natural respiration and the commencement of artificial respiration.

“32. The other drugs used had no effect upon the action of chloroform, except when their own special action became the leading feature in the case, as, for instance, during the vomiting from apomorphine, or the convulsions produced by nicotine.

“33. In order to test the alleged danger from shock during chloroform administration, the Committee performed those operations which are reported to be particularly dangerous in this connection—such as extraction of teeth, evulsion of nails, section of the muscles of the eye, snipping off the skin of the anus, &c. In many cases the operation was performed when the animal was merely stupified by the chloroform, and was not fully insensible. In such cases a slight variation in the blood-pressure would sometimes occur, such as one would expect from the irritation of a sensory nerve, or from the struggling that ensued; but in no case in any stage of anæsthesia was there anything even suggestive of syncope, or failure of the heart's action. In thrusting a needle into the heart there was often a momentary, but well-marked fall of blood-pressure; but even this was absent in all other injuries. If chloroform really had any power to increase the tendency to shock in operations, it is impossible to believe that it would not have been manifested to some degree at least in one or other of these numerous experiments. The Commission was, however, not content with this negative result, and determined to ascertain the effect of direct irritation of the vagi during continued chloroform administration. The results of such experiments (Nos. 65, 117, and others), proved that inhibition of the heart's action prevented, rather than assisted, the fatal effects of prolonged chloroform inhalation. An animal



that was put into a condition of extreme danger (from which it could only be restored by means of artificial respiration) by inhalation of chloroform for one minute, recovered spontaneously and readily after five minutes of chloroform inhalation, together with inhibition of the heart by electrical irritation of the vagus, carried on spontaneously. In one of these experiments (No. 117) chloroform was pushed for seven minutes, and during continued irritation of the vagus the animals repeatedly came round without artificial respiration. The danger really begins when the irritation is discontinued, or fails to inhibit the heart, and thus enables the chloroform in the lungs to be rapidly absorbed and thrown into the system. This danger is certainly increased by deliberately pumping the chloroform into the lungs by means of artificial respiration; for animals in which this was done, although they showed a tendency to recover when the chloroform and irritation of the vagus were discontinued, afterwards died rapidly.

“34. On another occasion, during Experiment No. 117, the animal was very nearly killed by a comparatively short inhalation of chloroform, owing to the electrodes becoming accidentally short-circuited, and failing to keep up the irritation of the vagus. Something similar occurred in No. 177, the effect of the irritation of the vagus passing off while the chloroform was still being pushed, and thus putting the animal into a condition of extreme and unexpected jeopardy. Nothing could be more striking than these near approaches to accidental death from failure to irritate the vagus efficiently.

“35. Other experiments were made to test the truth of the statement that chloroform increases the action of electrical stimuli applied to the vagus, and showed conclusively that it had no such effect. In one instance only the inhibition seemed to be intensified as the chloroform was commenced, and diminished when it was discontinued. But apart from the fact that the supposed effect ceased much too suddenly, a repetition of the experiment on the same and other animals showed that there was in reality no such effect. The increased inhibition in this instance was due to the chloroformist compelling the attendant who was holding the electrodes to change his position, and thus making him unconsciously apply them more efficiently; when the chloroformist withdrew, they were applied to their former position. This affords an instance of the care that has to be taken in making experiments, if one is not to be deceived.

“36. To test the effect of shock due to vaso-motor change rather than affection of the heart, Goltz's experiment on the frog was repeated on three dogs. In one there was a slight lowering of pressure which was not extensive, and in the others no effect was produced at all. Other operations which seemed likely to produce shock, such as violent blows upon the testicle, were singularly devoid of effect. Failing to lower the blood-pressure by any of these methods, recourse was had to section of



the splanchnics; but the low condition of blood-pressure this produced appeared, like stoppage of the heart from vagus irritation, to be a source of safety rather than of danger during chloroform administration. In this connection Experiment No. 111 may be studied. There was not much external hæmorrhage, but the splanchnics were divided—a proceeding which, as is often said, bleeds the animal into his own vessels. The pressure after this was extremely low, but chloroform was repeatedly given, and various other actions taken, and then chloroform had to be pushed on a saturated sponge, enclosed in a cup, for eleven minutes before respiration ceased.

“37. The experiments on dogs that had been dosed with phosphorus for a few days previously show that the fatty, and consequently feeble, condition of the heart and other organs so produced has no effect in modifying the action of chloroform. The ease with which vagus irritation and the Glasgow trace could be produced in these animals by even slight degrees of asphyxia was very remarkable; but this was equally the case in dogs that had been given phosphorus only a few hours before the experiments, and whose organs were not yet fatty. Many of these cases were in the last stage of phosphorus poisoning, and several of their companions died, without any experiment having been performed upon them, before or on the same day as they did. Numerous attempts were made in these animals to produce shock by operations in the recumbent and vertical positions, but without any more result than in those that were healthy.

“38. The truth about the fatty heart appears to be that chloroform *per se* in no way endangers such a heart, but, on the contrary, by lowering the blood-pressure, lessens the work the heart has to perform, which is a positive advantage. But the mere inhalation of chloroform is only a part of the process of the administration in practice. A patient with an extremely fatty heart may die from the mere exertion of getting upon the operating table, just as he may die from mounting the steps of his own hall-door, or from fright at the mere idea of having chloroform, or of undergoing an operation, or during his involuntary struggles. Such patients must inevitably die occasionally during chloroform administration, and would do so even were attar-of-roses or any other harmless vapour substituted for chloroform.

“39. The effect of hæmorrhage was tested by opening the femoral artery and allowing a considerable quantity of blood (8 to 12 ozs.) to escape. An immediate lowering of the blood-pressure results, and this is very slowly recovered from. Such an accident, however dangerous it may be in itself, in no way affects the action of chloroform, except in so far that a patient who has been nearly bled to death would require less chloroform in his system to put him into a state of anæsthesia. The low condition of his blood-pressure produced by the hæmorrhage would tend to prevent

the too rapid intake of chloroform, exactly as in the case of cutting the splanchnics.

"40. When the hind feet are lowered on to the floor, so as to place the animal in the vertical position, a considerable fall of blood-pressure in the carotid artery occurs; but when the animal is replaced on the table in the recumbent position, the pressure is fully restored. Various operations were performed on animals in the vertical position, but in no case was anything resembling dangerous shock produced. Inversion of the body, so that the animal stands on its head, has exactly the opposite effect—the pressure rising in the carotid artery and again falling to its former state when the animal is replaced in the horizontal position. Inversion of the body failed to restore an animal that was in the last stage of chloroform poisoning, though it raised the pressure in the usual way as long as it was continued. The change in the pressure of the blood of the carotid, which occurs when the position of the body is changed, appears, therefore, to be due simply to the effect of gravity.

"41. As regards the effect of chloroform upon different animals, it may be said to be the same as far as its anæsthetic action is concerned. There are certain peculiarities in its effect on the respiration and circulation connected with its local irritant action on the nostrils and fauces which are interesting to notice. Thus, when concentrated chloroform vapour is applied to the nostrils of rabbits they hold their breath, and the heart's action is slowed at once. This is always said to be due to reflex inhibition of the heart from irritation of the usual branches of the trigeminus reflected through the vagus, and is by no means peculiar to chloroform, but is produced equally by any irritant vapour, such as ammonia or acetic acid.

"42. In some dogs, and especially those to whom phosphorus has been given, stoppage of the respiration and slowing of the heart occurred immediately after the application of the chloroform to the face or on forcibly pulling out the tongue, and this suggests that the mechanism of cardiac arrest is precisely the same as it is in the rabbit. On the other hand, in rabbits, as in all other animals, it is possible to give chloroform so gently that no spasm of the chest occurs, no reflex action is produced, and then the pressure falls in the same regular curve and with the same succession of phenomena (anæsthesia, cessation of the respiration, and, lastly, cessation of the heart-beat) that was above described as typical of chloroform inhalation.

"43. Goats have a great tendency to hold their breath while inhaling chloroform, and monkeys resemble dogs rather than rabbits, as when ammonia was held before a monkey's nose it did not cause immediate stoppage of the respiration and heart as it does in rabbits.

"44. The experiments with ether show that it is impossible to produce efficient anæsthesia with this agent, unless some form of inhaler is

used which thoroughly excludes the air. If an ordinary cup containing a sponge saturated with ether is applied very closely to the face, the animal generally holds its breath and struggles, and we at once get the fall of the blood-pressure and slowing of the heart that invariably occurs under these circumstances. If the ether is continued in this way after the animal has recommenced breathing, a condition of semi-anæsthesia results, in which the cornea is sometimes sensitive and sometimes insensitive, and the pressure rises and falls alternately to a slight amount and forms a wavy trace, which may be continued right round the drum without any particular change. As soon as the air is rigidly excluded, the pressure commences to fall gradually exactly in the same way as with chloroform, and with the same succession of phenomena—viz., first anæsthesia, then cessation of the respiration, then of the heart movements, and finally death. How far this is due to ether, and how far to the results of asphyxia, it is impossible to say, but an exactly similar succession of events can be brought about by making the animal inhale carbonic acid gas alone.

“45. If surgeons chose to be content with a condition of semi-anæsthesia, it can, no doubt, be produced with perfect safety, though with discomfort to the patient, by ether held closely over the mouth. Such a condition of imperfect anæsthesia would never be accepted by any surgeon accustomed to operate under chloroform. If more perfect anæsthesia is required, it can be procured by excluding the air more rapidly; but then there is exactly the same danger as in giving chloroform. How very suddenly and rapidly the pressure may fall and death ensue is well shown by Experiment No. 33. Ether injected into the jugular vein produces a fall of blood-pressure and anæsthesia in the same way as chloroform does; but in all cases in which it is so injected, large clots are found in the heart immediately after death. It is interesting to note that Claude Bernard seems to have formed a very similar opinion with regard to ether, as the following quotations from his work, entitled ‘*Leçons sur les Anesthésiques et sur L’Asphyxie*,’ published in 1875, show. The first quotation (page 50) is as follows:—‘Aussi un certain nombre de chirurgiens proposèrent-ils d’abandonner le chloroforme pour revenir à l’éther, dont l’usage paraissait moins à craindre. Aujourd’hui encore, les chirurgiens de Lyons emploient préférablement l’éther. On croyait le chloroforme plus dangereux que l’éther parce qu’il était plus actif; mais, en réalité, la fréquence relative des accidents par le chloroforme tenait peut-être tout simplement à ce que c’était cet agent anesthésique qu’on employait dans l’immense majorité des cas. Plusieurs discussions ont été provoquées par les partisans de l’éther, sur tout par les représentants de l’école de Lyons, et il a été constaté que l’éther, lui aussi, avait produit un certain nombre d’accidents mortels. Les deux agents anesthésiques usités peuvent donc, l’un comme l’autre, entraîner

quelques risques de mort, et la chirurgie humaine a conservé presque partout le chloroforme, dont l'action est plus rapide et plus complète.' The second quotation, to be found on page 101 of the same work, runs:—

“Quant à l'éther et au chloroforme, l'action est à peu près la même au point de vue physiologique, sauf une différence d'intensité en faveur du chloroforme, ce que nous fera généralement employer ce dernier corps de préférence à l'éther.’

“46. The A. C. E. mixture, given gently with plenty of air and the other conditions mentioned before under chloroform, produces the typical chloroform trace. Given freely to a struggling animal, it can produce a very rapid and dangerous fall of blood-pressure. In Experiment No. 52, Fick 4 shows very perfectly the effect on the heart of holding the breath.”

*(To be continued.)*

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*An Atlas of Illustrations of Pathology. Fasc. VIII. Diseases of Brain and Spinal Cord. Plates XXXVI. to XLI. London: The New Sydenham Society. 1891.*

NEW ground is broken in this fasciculus, and we have a first instalment of beautifully-coloured plates illustrating affections of the central nervous system. Several of the plates are copied from Auvert's atlas; others are derived from Mr. Hutchinson's portfolio.

Plate XXXVI. depicts, in Fig. 1, a hydatid cyst in the posterior cornu of the right lateral ventricle.; and in Fig. 2, an abscess in the right cerebellar hemisphere.

Plate XXXVII. illustrates cerebellar hæmorrhage, cerebellar tubercle, and a large tubercular mass situated between the pons and cerebellum.

The three figures in Plate XXXVIII. illustrate the effects of injuries to the spinal column, attended by contusion of the cord; and Plate XXXIX. represents a tubercular tumour on the spinal dura mater. Other morbid conditions of the spinal cord are illustrated in Plates XL. and XLI.—viz., cartilaginous deposits on the spinal arachnoid, myelitis after concussion of the spine, tubercle in pia mater of the cord, and a fibrous tumour in the cauda equina.

All the plates are of a high order of excellence, but the pathological details accompanying them are sometimes scanty and imperfect.



*The Memoirs (chiefly Autobiographical), from 1798 to 1886, of Richard Robert Madden, M.D., F.R.C.S.; formerly Colonial Secretary of Western Australia; H. M. Commissioner of Inquiry into Slave Trade, West African Settlements; Author of "Travels in the East," "Memoirs of the Countess of Blessington," "Lives and Times of the United Irishmen," &c. Edited by his son, THOMAS MORE MADDEN, M.D., F.R.C.S.E. London: Ward and Downey. 1891. 12mo. Pp. 328.*

WE thank Dr. More Madden for these Memoirs of his distinguished father. We have read them with great, though mainly unprofessional, interest. Indeed, of medical material, such as justifies a notice of the book in the pages of a medical journal, there is but little—Dr. Madden's career having been social, literary, and political, rather than medical. The account of the earlier stages of his professional education and wanderings remind us irresistibly of the adventures of Gil Blas; but in 1823 he became a regular member of the profession, taking the diploma of the London College of Surgeons and the license of the Apothecaries' Company. From this time he combined somewhat desultory medical practice with journalistic and other literary work, and with unceasing efforts in the cause of liberty, more especially on behalf of the negro slaves and the Australian aborigines. With this part of Dr. Madden's long and active life it is not within our province to deal; but we recommend this account of it for perusal as strongly as we can. We shall be content to notice briefly some portions of the narrative which exhibit the subject of it, not as the writer or the politician or the philanthropist, but as the physician.

In 1824 Dr. Madden tried Constantinople as a field for medical practice, but the methods did not suit him and he left it soon. His account of his experience there is most amusing. Each "doctor"—there were at that time about fifty of them, mostly from Italy or Malta, of whom perhaps five had received a medical education—maintained a Greek dragoman, whose business it was to tout for patients and extol his employer's skill. Dr. Madden's jackal taught him that the golden rules of Constantinopolitan practice were three: 1, fee before advice; 2, ask no questions of the patient; 3, give no intelligible answers to the patient's friends. Symptoms were to be sought in the pulse alone; prognosis was to be limited to "Inshallah" ("please God!") in



doubtful, and "Allah kharim" ("God is merciful") in desperate cases. Thus instructed, the expectant practitioner took his seat in a coffee-shop, where he overheard his *fidus Achates* tell the surrounding Turks how he had seen his doctor, a few days before, remove and scrape a patient's liver, how the sick man recovered—and how the grateful patient had paid a handsome fee of five purses. The result was satisfactory.

"A well-dressed man who had been sitting at my side in silence for half an hour, at last recollected that he had a wife or two unwell, and very gravely asked me 'what I would cure a sick woman for?' I inquired her malady. 'She was sick.' 'In what manner was she affected?' 'Why, she could not eat.' On those premises I was to undertake to cure a patient who, for aught I knew, might be at that moment *in articulo mortis*. I could not bring myself to drive the bargain, so I left my enraged dragoman to go through the pleasing process. I heard him ask a hundred piastres, and heard him insist by his father's head and his mother's soul that so good a doctor never took less. However, after nearly an hour's haggling, I saw fifty piastres put into his hand. I visited my patient, and had to ascertain her disease as well as I could with a door between us, she being in one apartment and I in another; the door was ajar, and through this her head, enveloped in a sheet, was occasionally projected to answer my questions. I, however, was enabled to collect enough in this way, and from the attendants, to cause me to suspect that she had cancer. I did all that, under such circumstances, I could well do. I gave her an opiate; and after smoking the inevitable pipe and drinking sherbet, took my leave."

In another case the patient was a pasha of high rank surrounded by doctors in consultation. A Turkish priest made an oration. He had consulted the Koran and found that the word "honey" was repeated thirty-six times. His Highness had been thirty-six days ill. The inference was obvious. Let the pasha have thirty-six drops of "oil of wax" every thirty-six hours. The other consultants acquiesced, as discussion was forbidden, and pocketed four dollars each. The patient died. Our doctor, as he withdrew, remarked to an Armenian *confrère* that the proposed remedy was unusual. The other looked round cautiously and whispered "poison;" the bulk of the sick man's property being left to a mosque. Dr. Madden went back (in spite of his dragoman's remonstrances) and warned the attendants that the man would die if he took the medicine. It became clear that such unprofessional conduct would not do in Constantinople, and Dr. Madden gave up his practice.

Changing the venue to Alexandria, Dr. Madden, in 1825, came in for a severe epidemic of plague, of the extreme contagiousness of which—although he himself escaped completely—he gives some instances. He visited a patient said to have had apoplexy, but really suffering from plague. On his return he changed his clothes and gave those he had taken off to his Maltese servant to hang up. Next day but one the latter was taken ill of the disease. On his way to hospital he called in to see his brother; *he* was seized three days later, and being bled, according to the ordinary routine practice, died *secundum artem*. Dr. Madden adopted a stimulant plan of treatment, with cold applications to the head and hot cataplasms to the buboes, and 75 per cent. of his patients recovered. He attributed his own freedom from infection to his insisting on free perfilation of the wards, to wearing an impervious oilskin garment, to having eaten or taken a glass of wine before visiting a patient, and to smoking incessantly while he continued in presence of the sick. Though he thus (as he supposed) escaped plague, he came near succumbing to a combined attack of dysentery and an Alexandrian doctor. In despair he ordered his doors to be closed against his medical adviser, took scruple doses of calomel for three successive days, and got well.

In 1822 he was practising at Naples, and he tells us an amusing episode of his Neapolitan experience. One of his patients was Lord Charles Murray, son of the Dowager Duchess of Athol, who was mentally deranged after an attack of brain fever. He was anxious to visit an old friend, the Marchioness of Anspach, and his physician accompanied. For a short time the visit proceeded quietly, but the conversation became explosive, and Dr. Madden with some difficulty got his charge to the gate. The Margravine accompanied them, and then Lord Charles “insisted on showing her a new mode of entering a carriage, which he particularly recommended her to adopt; he then made a rush towards the carriage-door, and, putting his hand on the window-frame, made a jump of that kind which harlequins and clowns are wont to make through panels in pantomimes, and fairly launched the upper part of his body through the window, leaving his long legs on the outside, kicking furiously in all directions.” It was necessary to enter the carriage by the other door and pull the patient through. Lord Charles recovered his reason; but died in 1824, at the age of twenty-five, in Greece, after

suffering great privation and fatigue in the cause of Grecian liberty.

In 1836 Dr. Madden visited New York, for the second time. He visited the State Prison, then on Blackwell Island; and we quote his description of the system of solitary confinement then practised:—

“I was painfully impressed by the rigour of the solitary confinement, which far exceeded anything of the kind I had ever seen elsewhere. In one of the cells I saw, through the small grated aperture in the door, a young Englishman who had been sentenced to five years’ solitary confinement for forging American bank notes. This prisoner had already been in his dismal cell— $7\frac{1}{2}$  feet by 5—three years, and had two years more to remain there. I asked the chief warder if this unfortunate man was allowed to have any book, such as a prayer-book or a bible, in his cell. ‘Nothing of the kind; no sort of amusement is allowed,’ was the answer. ‘Do you mean to say the bible or a prayer-book would be considered an amusement?’ I asked. ‘The reading of it would serve to distract the mind,’ said he, ‘and therefore all books are forbidden.’ The same official told me he had been five years in that prison, and had not known a single case of madness occurring there, which, I confess, much surprised me; nor, according to him, had any prisoner died whilst under solitary confinement during that time.”

Before concluding our notice of Dr. Madden’s Memoirs we must give an example of Poor-law dietetics, which is, we fear, typical of Bumbledom in the sad years which followed the Great Famine. In 1850, in the Kilrush Union, the average weekly cost of a pauper was  $10\frac{1}{4}$ d., hospital and infirmary patients included. Excluding these, each pauper was fed for less than 8d. per week. What was his diet? Our author compares the Kilrush dietary with that of St. Pancras Workhouse, justly premising that “the present dietary of the English workhouses has been reduced to the smallest amount of nutritious food deemed sufficient to maintain life in health and strength.” The following is the amount of food considered sufficient for this purpose for one week by the Kilrush Board of Guardians in 1850:—Bread, 7 lbs.; Indian meal in stirabout,  $3\frac{1}{2}$  lbs.; “soup,” 14 pints, each pint containing 2 oz. oatmeal and 2 oz. vegetables; cocoa, 3 pints. The St. Pancras dietary included 18 oz. of meat,  $2\frac{1}{4}$  lbs. of vegetables,  $14\frac{1}{2}$  pints of milk and 29 oz. of meal in porridge, 12 oz. of pudding, 6 oz. of cheese, and 11 pints of beer. No meat, no milk, no vegetables, no cheese, no beer, in Kilrush!

and the bread, "composed of equal parts of rye and barley, is black, clammy, badly baked, unsightly, and distasteful," was unfit for human food. Even in the overcrowded infirmary, the medical officer reports, the milk supply was 150 to 180 quarts short. It is needless to add that the mortality amongst these poor starved creatures was appalling.

We repeat that we thank Dr. T. More Madden for these extracts and abstracts from his father's Memoirs; and we should have thanked him more warmly if the work had been better done. We get a great deal too much poetry, in complete oblivion of the Horatian dictum—

Mediocribus esse poetis

Non homines, non di, non concessere columnæ;

while prose narrative, which we should have read with great interest, is excised because the story is told in some other work long since out of print. As to the printing of this book, it is most discreditable to editor, publishers, and printers—the last of whom have the good taste to conceal their names. Misprints abound on almost every page.

*The Retrospect of Medicine.* Edited by JAMES BRAITHWAITE, M.D., London. Volume 104, July–December, 1891. (Issued January, 1892.) London: Simpkin, Marshall, Hamilton, Kent & Co., Limited. 8vo. Pp. 432.

THIS old-established and ably-edited half-yearly journal maintains the high reputation it has long enjoyed as a faithful record of contemporaneous medical and scientific progress.

The present volume consists, as usual, of a synopsis, arranged alphabetically and containing an abstract of the principal articles which were published in the Medical Journals during the half year, and of sections on Medicine, Surgery, and Obstetrics and Gynæcology.

The Editor has done his work well, and we congratulate him on the green old age of "Braithwaite's Retrospect"—a publication which has stood its ground as a book of reference against tremendous odds in these days of modern medical journalism.

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## PART III.

### MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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#### ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—GEORGE H. KIDD, M.D., F.R.C.S.I.

General Secretary—W. THOMSON, F.R.C.S.I.

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#### SECTION OF STATE MEDICINE.

President—E. MACDOWEL COSGRAVE, M.D.

Sectional Secretary—NINIAN FALKINER, M.B.

*Friday, February 19, 1892.*

The PRESIDENT in the Chair.

#### *The Control of Inebriates.*

DR. COSGRAVE read a paper on the above subject. [It will be found at page 177.]

DR. DAVYS considered Dr. Cosgrave's paper a valuable contribution to the treatment of the inebriate. With reference to the second class referred to by Dr. Cosgrave, the intermittent drunkard, Dr. Davys considered (and quoted cases in support of his assertion) that the only successful treatment or cure of the intermittent drinker is, the moment his family call on their physician to prescribe for the inebriate, for the doctor, with the approval of the family of the patient, to employ a strong male-attendant to wait on the inebriate, and by physical force prevent him taking any alcohol, the patient to be kept in his house. Much greater privacy is thus observed than by sending him to a Retreat; and having to bring him before a magistrate, as suggested in Dr. Cosgrave's paper, is obviously objectionable. The adoption of the course suggested by Dr. Davys effects a cure so far in about three days as to enable the inebriate to resume, in perfect sobriety, his ordinary avocation. The same course should be adopted when, at the succeeding period, sometimes

In two or three months, the patient breaks out again. The latter, when returning to his sober state, fully approves of the course adopted by his physician.

MR. EDGAR FLINN thanked Dr. Cosgrave for his most interesting paper. He quite agreed that the regulations for getting dipso-maniacs into Retreats under the Habitual Drunkards' Acts were made too stringent. They should be more relaxed, and such places would be much more availed of. It was a pity that the Habitual Drunkards' Act was not applied to Ireland, for it certainly was required, and would act most beneficially. Retreats in England for habitual drunkards did good in some instances, but in Mr. Flinn's experience they always failed in a cure, unless the patient was committed to the Retreat under a warrant. Persons addicted to drink were a class very difficult to treat by drugs; the radical cure, no doubt, was to remove them to some place where they would be prevented from obtaining drink—in fact, in some instances, they might with propriety be placed in asylums.

DR. J. W. MOORE instanced three cases of intermittent inebriety which had come under his observation, and expressed the opinion that physical restraint was a much more reliable means of treatment than any medicinal remedies. He alluded to the unscrupulous way in which vendors of alcoholic beverages supplied the unhappy victims of inebriety with wine or spirits. He considered that the use of the terms "bestly" and "bestial," in connection with drunkenness, was a libel on the brute creation. The whole question of the control of inebriates was well worthy of the attention of the legislature of the country.

DR. THOMAS DONNELLY agreed with the previous speakers as to the value of physical restraint in the treatment of inebriates, and the necessity which exists for greater power in using it.

DR. COSGRAVE, in reply, said that intermittent inebriety was undoubtedly the most interesting form from a scientific point of view. Dr. Davys' treatment of restraint by a stalwart attendant was good, if the patient would submit to it; but there was no power to compel him to do so. Easy admittance into an inebriate asylum for a short period exactly meets such cases, affording a chance of tiding over attacks. Inebriety often caused neuroses in the descendants, sometimes whole families being affected with hysteria, epilepsy, inebriety, &c. In one case he (Dr. Cosgrave) had seen inebriety once in three generations. A lady, aged nearly seventy, suffered from intermittent attacks, her daughter died of *delirium tremens* at about thirty, and her daughter was seen under the influence of drink when only fifteen years old. The Reports of the Somerset House authorities show that alcoholic drinks are now seldom adulterated, so the evil done must be laid to the charge of the alcohol itself.

*Pollution of the South-eastern Foreshore of Dublin.*

MR. EDGAR FLINN read a paper on the pollution of the south-eastern foreshore of Dublin.

He pointed out that the pollution at Dublin, extending from Merrion to Kingstown and Sandycove, not only existed but was increasing, and that although several partial attempts had been made to remedy this state of affairs, nothing radical had been effected; that this state of sanitation, at places claiming to be health-resorts, was particularly reprehensible.

There are eight main sewers and thirty minor ones at present discharging into the sea at this locality. He advocated a deep-sea outlet, such as Llandudno possesses, which has been so advantageous to that town. In addition, he recommends an intercepting sewer, in which the sewage is to be collected and then discharged at about 600 feet from the shore, at a depth of 30 feet below the level of sea water.

He concluded his paper by a criticism of the present methods of disinfecting sewage, and referred to that of Messrs. Adeney and Parry, known as the oxygen process, which has the advantage of precipitating the solid matter of sewage without the addition of precipitative chemicals.

DR. DONNELLY remarked that, as precipitation has been so successful in many places, it could be adopted at the Salthill outfall, and avoid polluting the sea so close to the best bathing-place near Dublin—that is, Sandycove.

DR. COSGRAVE strongly urged the importance of not carrying out new drainage into the sea, but of substituting precipitation as used so successfully at Drumcondra, and as about to be introduced in Dublin. At Llandudno the drainage is successful—for Llandudno, but not for the Conway estuary, which, fortunately, is not fringed by houses as Kingstown and Dalkey are. Messrs. Parry and Adeney's method seems the most promising.

DR. PARSONS asked if any bacteriological investigation of the effluent liquid after precipitation had been made, and if so with what result?

MR. FLINN replied in the negative.

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*Thursday, March 3, 1892.*

The PRESIDENT in the Chair.

*The Present Position of Dispensary Medical Officers in Ireland, and Suggestions for the Removal of their Just Grievances.*

DR. THOS. DONNELLY read a paper on the present position of dispensary medical officers in Ireland, and suggestions for the removal of their just grievances. [It will be found at page 275.]



*Residential Disabilities of Medical Officers in Rural Districts.*

MR. P. M. LAFFAN read a paper on the residential disabilities of medical officers in rural districts. [It will be found at page 280.]

MR. WM. THOMSON said he had no criticism to offer on the paper, because he concurred in its general tendency and recommendations. He referred to the habit of signing tickets *en bloc*, and mentioned the decision of the Local Government Board in their instructional memorandum of 1885 in these words :—"Persons empowered to issue tickets for medical relief under the Medical Charities Act, cannot delegate that power to others. Such tickets should not be signed in blank, and left to be filled up by other persons." Yet recently the same Board had decided, in the case of the Castlereagh district of the Belfast Union, that the practice which they condemned in 1885 was not illegal. He called attention to the proposal in the Local Government Bill to transfer the sanitary service appointments to the County Councils, and urged the dispensary doctors to consider the effect of this intended legislation. As to the State service, he pointed out that it would not be more costly, that it would be more efficient, and that entrance by examination would secure the best professional men regardless of other considerations.

DR. FINNY fully concurred in the importance of the subject dealt with by the papers which had been read, and considered that this importance was to be measured not only from the point of view of the existing poor-law medical officers, but from the wider grounds of medical education and collegiate status. As President of the Royal College of Physicians he reiterated what he had stated on other occasions—that the interests of the College and of its Licentiates were intimately connected with the status and relations of the poor-law medical officer, and that it was a serious fact that owing to the real and most serious grievances of the dispensary medical men, the best men who take the Licenses of this College are debarred from taking office in this country, and that they have to seek their living in the mining and manufacturing districts of England or in the Colonies. Until these grievances be remedied this state of things will hardly be altered, and the effort of the dispensary medical doctors to have them remedied he could promise will be fully supported by the influence of the Royal College of Physicians. It would be well, however, that a concentration of effort should be made, and while the grievances are many and real, in the forefront he would point out the question of "Superannuation;" and he felt that should united effort be brought to bear on the Government on this point the Government would grant it—and one at least, and might he say the greatest grievance, would be removed.

The PRESIDENT mentioned that when acting as *locum tenens* for a dispensary medical man he was sent a red ticket, directing him to visit

the warden who signed the ticket. He also expressed the indebtedness of the Section to Mr. Laffan for coming up and laying his valuable paper before the Academy.

DR. J. W. MOORE referred to the very unsatisfactory position in which the Dispensary Medical Officers of Ireland, acting as District Medical Officers of Health under the Public Health Act of 1878, were placed, mainly in consequence of the Orders to sanitary authorities issued by the Local Government Board under the Act in question, particularly as regards the question of salary. The duties required of the District Medical Officers of Health were irksome and onerous, and yet the Local Government Board in 1874 sent a General Order to the sanitary authorities throughout the country to the effect that the salaries paid to the medical officers of health should not exceed one-fourth of the amount of their salaries as dispensary medical officers. This objectionable maximal scale of remuneration was indeed withdrawn *in name* when the Public Health Act of 1878 became law; but no material change for the better was effected. In conclusion, Dr. Moore alluded to the provisions of the Local Government (Ireland) Bill, 1892, which touched upon the interests of the Dispensary Medical Officers acting as District Medical Officers of Health.

MR. P. M. LAFFAN said:—I quite agree with Dr. Donnelly that it would be very desirable to have a definition of a “poor person” within the meaning of the Act; but I think the State could not give a narrow definition, as in a matter of charity and philanthropy it is bound to regard with a more paternal solicitude the interests of the larger number of its subjects than those of a limited portion of the community such as Dispensary Medical Officers; it is bound to be broad rather than contracted in the interpretation it may put on this branch of legislation, and looking at the subject without prejudice we cannot fairly demand more than secondary consideration. Therefore it is incumbent on us to advocate such rules as will counteract any vagueness that may still be permitted to continue as to the persons legally entitled to gratuitous medical relief at the public expense. This, I believe, can be done by limiting the number of issuers of tickets, and allowing only responsible persons to possess the power of distributing them, and also by increasing the facilities for cancelling those given to non-qualified recipients. To Dr. Donnelly’s admirable suggestions in this direction, I think this one might be advantageously added:—That a list of the names of the cancelled persons be posted in a conspicuous position on the outside of the dispensary after every meeting of the Committee, but that before doing so the Hon. Sec. should send a notice to them that their names would be published on the “List for the Prevention of Imposition” on a certain day, unless they produced a certificate from the doctor that he exonerated them from further responsibility, or they proved their inability to pay to the satisfaction of the

Committee. This, I believe, would have a very salutary effect, as they would recoup the medical attendant rather than have their names publicly placarded, if able to do so. Dr. Donnelly's suggestion that a mileage rate should be given to dispensary officers, if carried out, would be a recognition of the principle that the reward should be proportional to the labour, and though some difficulties would at first be experienced in the calculations, this would soon disappear; still I confess that an increase of salary based on the annual number of miles travelled per annum seems to me to be more free from objection.

*Leave of absence.*—This scarcely demands any observation; it goes without saying that a man working day and night—a sort of human machine—must, at least, once a year require a thorough change for mind and body, and, I believe, the public would gain rather than lose by it, as the holiday-seekers could combine pleasure with instruction, and they would derive both by visiting the great hospitals at home and abroad, in addition to physical benefit from variety of scene; they would return with their minds expanded after drinking, so to speak, at those grand fountains of knowledge. The double expense—the payment of the *locum tenens* at home and the travelling outlay—deters many practitioners from taking a respite from their labours that would be associated with advantages for themselves and their patients.

The suggestion that all the medical officers of the Union should be *ex-officio* attendants of the Workhouse Hospital within it, is certainly an original proposal, and has to recommend it—

1st. It would bring the medical men into closer contact with each other, and afford opportunities for interchange of opinions and views on medical matters.

2nd. It would be of unspeakable advantage in the way of giving them hospital experience. The dispensary work of the district for the man doing both duties could be lessened by his bringing in cases living at a long distance, as it is a well-known fact that where a doctor holds the dual position he can more easily induce patients to go to hospital.

3rd. It would stimulate a certain amount of healthy rivalry, and encourage scientific research and study.

As regards making us direct Officers of State, Mr. Thomson anticipated me in reminding you that the Irish medical officers are at present half paid out of Government funds. This being so we are a good part of the way towards being civil servants, and are not logically exorbitant therefore in requesting to be placed on the same lines as regards pensions, holidays, &c., with those who are, so to speak, only a little in front of us; and when our salaries will be increased by another contribution from the Treasury—which we hope will be one of the outcomes of the present agitation—we shall be well advanced on the road, and intelligence and perseverance, with unity and time, will soon bring us to the final goal of

a special State department, presiding over the medical officers of the country and sanitarians. This subject is so extensive in itself that if treated with the importance it demands, an entire night for its discussion in this Academy would scarcely exhaust its many phases.

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## SECTION OF SURGERY.

President—H. G. CROLY, President of the Royal College of Surgeons in Ireland.

Sectional Secretary—R. L. SWAN, F.R.C.S.I.

*Friday, March 4, 1892.*

The PRESIDENT in the Chair.

### *Recent Specimens.*

Recent specimens were exhibited by Mr. Wheeler, Mr. Thomas Myles, and Mr. Pratt. The President exhibited some living examples of results of excision of elbow. Mr. Swan: some examples of rectification of aggravated equino-varus by the section devised by exhibitor.

### *The Treatment and Origin of Hammer-toe.*

MR. SWAN then read his paper on the treatment and origin of hammer-toe, and demonstrated that the skeleton was at fault. He deprecated the treatment usually recommended, of division of certain of the soft tissues. From a number of facts which he stated as to the functions of the toes in certain races, and the functional adaptability of the second toe, and from a comparison of the feet of anthropoid apes with the lower and higher types of the human foot, and from a review of the embryological development of the human foot, he refers the distortions of equino-varus and other congenital aberrations from the higher type—hammer-toe included—to either an arrest of the evolutionary process, or to a reversion to a lower type, with an unequal development of the osseous and soft tissues.

MR. HAMILTON considered the Academy was indebted to Mr. Swan for his paper, which was characterised by originality and research, as well as by practical usefulness. The surgeon was apt to follow routine, and he had himself on many occasions divided the flexor tendons for this affection. He had no doubt, from what he now saw, such teaching was erroneous. He had himself been struck with the functional usefulness acquired by the toes, as illustrated by the divers in the Bay of Naples.

MR. T. MYLES congratulated the Section on the pleasure and benefit they had derived from listening to Mr. Swan's very exhaustive paper. The speaker, however, disagreed with some of Mr. Swan's statements, and considered that his deductions were hardly warranted in their



entirety. For instance, the second toe, normally, was not shorter but always longer than the first. Mr. Myles pointed out that in the condition under discussion the position of flexion of the second toe had the effect of removing the broad anterior extremity of the phalanx from between the first and third, and was, in fact, nothing more than a spontaneous effort to diminish the effects of the crowding together of the toes by tight boots. If Mr. Swan's theory were true, it ought to be equally common amongst people who do not wear boots as amongst those who do.

MR. WHEELER thought that the last speaker argued from the particular to the universal. In any cases he had seen of hammer-toe he was led to believe that it was congenital. On two occasions he excised the joint and placed the toe in the straight position.

MR. PRATT referred to the evolutionary development which occurred in the feet of birds as having some bearing on Mr. Swan's explanation of the origin of this affection.

The PRESIDENT also spoke.

*Some Remarks on Excision of the Elbow-Joint.*

The PRESIDENT (Mr. Croly) made a communication on elbow resections. He performed the operation close on fifty times in hospital and private practice. He first described cases suitable for excision, and said the last thing that entered his mind in elbow-joint disease was amputation. Fortunately in disease of the elbow the humerus was more extensively diseased than the bones of the forearm. He exhibited two cases of excision in the Library before the meeting. One on a man operated on about six years ago for ankylosis in bad position. The man, over fifty years of age, has quite as good use of the arm operated on as the other. The second case, a sailor, R.N., was operated on over two years ago. His arm is quite as useful as the other; he can row in a boat. The members examined both cases, and were surprised at the strength of the arms.

The President, in describing the second case (the sailor), stated that the disease in the joint followed a fall on the deck of H.M.S. *Superb*. So little was the joint altered that doubts were expressed as to any disease, and the patient was treated as a malingerer for seven months. On his return home he was advised to consult the President. There was very little swelling in the joint, but a peculiar "elasticity" on pressing the bones of the forearm against the arm, also on lateral movement. The joint was found extensively diseased when laid open.

He prefers the single incision, which he makes about 5 inches long. He recommends the arm to be held as straight as possible during the operation, and frees the structures on the external side of the joint *first*. The ulnar nerve, in diseased joints, in his experience is not necessarily seen. He removes the olecranon first, next head of radius, and lastly,

the condyles. He laid particular stress on the importance of removing a portion of the *shaft* of the humerus in addition to the condyle, otherwise a stiff joint would be sure to follow.

He exhibited a number of specimens of his cases from the Museum of the College, showing the amount of bone removed. He also exhibited a radius and ulna from the Bone-room of the College, showing the insertions of the biceps and brachialis anticus, the latter insertion being sufficiently low to allow of the removal of the coronoid process. He laid stress on the importance of early passive movements. If sufficient bone is removed there is no fear of ankylosis. In his experience arms, after excision, are not really useful before the expiration of six months to a year.

MR. WHEELER said that he had also cases in which there were scarcely any symptoms to warrant operation as far as external appearances. Some of these cases he described under the head of silent caries. As the President stated that his observations were addressed to the junior men present, and as most of the observations made were well known—in fact, might be called standard rules—he would only allude to one or two points. First, the use of Esmarch bandage in excisions of joints. Some ten years ago he read his condemnation of this bandage; in excisions of joints such as the shoulder, elbow, knee, it was not useful, and he advocated its use in excision of bones such as the bones of the foot, but his experience many years ago taught him that secondary hæmorrhage was prone to follow its application when used in joint excisions. He did not agree that the transverse incision, made in what is termed the H incision, opened when passive motion was set up, for it was below the line where flexion took place; he invariably adopted a single incision. In bony ankylosis he had practised, on one occasion, the operation suggested by Mr. Butcher, but never performed by him. Like Adams' operation, which was a modification of Mr. Butcher's, bony ankylosis always followed, for the sawn bones remained too close—the only difference being that a straight ankylosed elbow-joint could be converted into a flexed, stiff joint, which, in his opinion, was nearly as useless. The last three cases of excision of this joint he had performed, were for ankylosis in the semi-flexed position.

MR. BARTON said that in his experience excision had rarely to be performed for ankylosis in the flexed position. He endorsed what the President had stated as to the time required for a useful cure, and believed twelve months necessary.

MR. MYLES was surprised to hear the last speaker say that ankylosis was not necessary for flexed positions of the forearm. In his opinion the traditional belief that a flexed position of the forearm, that is, nearly a right angle, was wrong. He had fastened his own arm at a right angle in plaster of Paris, and found it was quite useless to him.

The PRESIDENT replied.

## SECTION OF MEDICINE.

President—J. MAGEE FINNY, M.D.; President of the Royal College of Physicians of Ireland.

Sectional Secretary—A. N. MONTGOMERY, M.R.C.P.I.

*Friday, March 11, 1892.*

The PRESIDENT in the Chair.

*Living Specimens.*

DR. WALTER G. SMITH exhibited a man with Universal Alopecia.

DR. H. C. TWEEDY showed a case of Dermatitis Exfoliativa.

*Case of Stricture of Sigmoid Flexure of Colon.*

MR. J. P. DOYLE read a paper on a case of stricture of the sigmoid flexure of the colon in a man, forty-five years of age, who for beyond two years suffered from constipation, followed at times by slight relaxation of the bowels. He was subject to frequent attacks of colic and griping pain, with soreness and tenderness over the left iliac region. He passed at times quantities of clear or red-stained gelatinous mucus. Two attacks of obstruction with peritonitis occurred. The *post mortem* examination revealed a rupture below and at the seat of a cicatricial stricture in the sigmoid flexure of the colon. General peritonitis existed; the lumen of the intestine at the stricture would admit about a No. 10 catheter. The descending colon was thickened, purplish red, and distended with hardened fæces which pressed against the opening in the strictured portion of the gut, but did not escape into the peritoneal cavity.

The PRESIDENT asked Mr. Doyle as to the pathological nature of the stricture—as to whether it was the result of ulceration, such as is known to occur in dysentery—or of epitheliomatous cancer. He considered that the term of stricture should be limited to these two pathological conditions; or did Mr. Doyle consider that the stricture was due to the chronic peritonitis of which he spoke.

DR. W. THORNLEY STOKER having spoken,

MR. DOYLE briefly replied.

*A Case of Opium-Poisoning.*

MR. J. J. BURGESS read a paper on the above subject. [It will be found at page 270.]

DR. FALKNER gave an account of two cases of opium-poisoning which had come under his notice. In one a young man suffering from syphilis had drank about 5 oz. of a lotion containing 15 grains of the extract in each ounce, or 150 grains of crude opium. He was not under treatment

until 13 hours after the poison was taken, and was not considered safe until 16 hours after the treatment commenced. The interrupted current was of great service. The second was a case of a lady who was suffering from severe neuralgic pains, and a uterine tumour, who received three hypodermic injections in the space of six hours of  $\frac{1}{2}$ -grain morphin in each. The lessons to be drawn from these cases were that, in the first case, a practitioner had left it as hopeless before treatment was commenced. In the second case the hypodermic administration had been left in the hands of a non-professional person.

DR. JOYNT mentioned the case of a Parsee lady whom he had been called to see some years ago in Surat, in India. The lady was about seventeen or eighteen years of age, and had swallowed about an ounce of Collis's chlorodyne. Before Dr. J. saw her she had been treated by a Parsee medical graduate, who had employed all the usual remedies laid down in medical books—stomach-pump, electricity, flagellation, and artificial respiration, &c. After again in vain repeating some of these, and the comatose condition in which he found her progressing steadily, he had recourse to cold affusion, in the form of a stream of iced water slowly poured on the patient's head from a height of several feet. After a considerable time she responded to this treatment, which was carried out more or less continuously for about two hours, when she so far recovered as to be able to swallow a cup of strong coffee. Perfect recovery resulted. The poison had been swallowed about four hours before Dr. Joynt saw her.

DR. LITTLE considered that the expediency of relying on atropin as an antidote to opium-poisoning was very doubtful. It did not appear to have done good in Mr. Burgess' cases. He thought the communication most valuable as showing we should not give up any case of opium-poisoning until life was extinct. The remedies which appear to have done most good were the persistent artificial respiration and external stimulation. In a case which he had treated many years ago life was saved apparently by keeping the patient awake by slapping various parts of the body exposed for the purpose with a spatula dipped in very hot water and the use of hot coffee by enema and by the mouth. He doubted the safety of using the faradic current to the head, but found it in the case he had himself treated useful when applied to external parts as a mode of waking up the patient.

DR. HASTINGS TWEEDY said that he rose with a certain amount of diffidence to speak about a case that was admitted into Steevens' Hospital two years ago, when he was house-surgeon there. His case, unlike the other cases cited, died, though the dose taken was less than that in Mr. Burgess's case. Having heard the very instructive case of recovery he could not attribute his unsucccess to anything but to the more orthodox methods he employed in comparison to Mr. Burgess. The



stomach was washed out, ether was not injected, atropin was injected to a much larger extent than in this case. The patient was admitted at 3 o'clock in the afternoon. At Dr. Hayes' suggestion, we kept up artificial respiration until 10 o'clock the following morning. She was then breathing at the rate of 12 per minute. She continued to breathe quietly until 2 o'clock, p.m., when she suddenly died 23 hours after she was admitted.

DR. HAYES said that, having seen the patient mentioned by Dr. H. Tweedy, he was strongly of opinion that the injection of atropin distinctly benefited the patient, and he thought that it was to be regretted that in that case the artificial respiration had not been longer persevered in.

DR. WALTER SMITH remarked upon the wide limits which separate the smallest fatal dose of morphin from the maximal dose, upon which recovery has followed, the ratio being 100-1. The use of atropin in the treatment of opium-poisoning is still an undetermined question; when it appears to do good it is probably by its action as a respiratory stimulant. The state of the respiration is a better test than the condition of the pupil. It is strange how conflicting are the views as to the excretion of morphin, an important point both in toxicology and forensic medicine. It seems to be now established that morphin is mainly excreted into the stomach and bowels, and so cast out in the fæces. Very little goes out in the urine.

DR. H. T. BEWLEY said he had seen a case of morphin-poisoning in which the breathing became exceedingly shallow and feeble, and gradually became slower until the respiratory movements occurred only about four times a minute. He injected atropin several times, about  $\frac{1}{30}$  grain in all, after which the breathing became better and stronger, and increased in frequency up to 6 or 7 times a minute. The patient died—in fact, she was dying of liver disease at the time she took the morphin.

DR. FINNY, alluding to the question of the antagonism of the alkaloids of morphin and atropin, referred to a communication he had made on that subject before the Medical Society of the College of Physicians some twenty years ago, in which he illustrated—and as it seemed demonstratively—the important curative antagonism of morphin in a case of atropin-poisoning, while he questioned the reliability of the treatment of opium-poisoning by the hypodermic use of atropin.

MR. BURGESS, in reply to Dr. Joynt, said he believed in cold douches, but not in a state of collapse, having often used them in milder cases of alcohol-poisoning with success. To Dr. Little—He confessed that strychnin injections did not occur to him until afterwards, but he had no doubt when the breathing became regular this would have done excellent service. To Dr. Tweedy and Dr. Hayes—The atropin was not pushed any further because—(1) It had no effect on the respiration or heart during its appli-

cation over three hours. (2) He shrank from introducing a second poison into the system when he was not deriving any benefit from the quantity already given. He was glad to find that Dr. Smith and the President agreed with his views about atropin, not being what it is represented to be, an antidote for opium.

The Section then adjourned.

#### MALTHUS.

IN these days of hurry, when of making of new books there is no end, nobody reads the old ones; and the views of the older authors are liable to perversion, sometimes to a ludicrous extent. None of the elders has suffered more in his reputation from such ignorance and perversion than the worthy clergyman, Malthus. In his case misrepresentation probably reached the lowest deep of absurdity in the July number of the *American Archives of Obstetrics, Gynecology, and Pediatrics*, where its readers are gravely informed that "Thos. Robert Malthus, the scientific expounder of the principle of population . . . . conceived the idea of ligating the vas deferens in order to destroy fruitful marital relations" (p. 415). In a recent issue of the *Chicago Medical Recorder* Dr. W. H. Washburn, of Milwaukee, stimulated by horror at this audacious calumny, devotes an interesting article to an attempt to rehabilitate Malthus. He shows that the leading idea in Malthus' teaching was one which everyone admits in theory—that no man has a moral right to marry until he is able to support a family. As to "fruits of philosophy," ligation of vas deferens, and such like procedures, he repudiates them with disgust. In one of his works he says:—"I have never adverted to the check suggested by Condorcet without the most marked disapprobation. Indeed, I should always particularly reprobate any artificial and unnatural modes of checking population, both on account of their immorality and their tendency to remove a necessary stimulus to industry." In fact, his object was not to diminish population, but to obviate the misery and vice which excess of population over means of subsistence must inevitably produce. In replying to his critics he says they "proceed upon the very strange supposition that the ultimate object of my book is to check population, as if anything could be more desirable than the most rapid increase of population unaccompanied by vice and misery. But of course my ultimate object is to diminish vice and misery, and any checks to population which may have been suggested (moral restraint rather than the existing positive checks) are solely as a means to accomplish this end." And so: as the average number of births to a marriage are five, let no man marry unless he is in a position to maintain a wife and five children. To this Malthusian precept who will object?

## SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.; F.R.C.P.I.;  
F. R. Met. Soc.; Diplome in State Medicine and ex-Sch. Trin. Coll. Dubl.

### VITAL STATISTICS

*For four Weeks ending Saturday, February 27, 1892.*

The deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

| TOWNS     | Weeks ending |             |             |             | TOWNS       | Weeks ending |             |             |             |
|-----------|--------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|
|           | Feb.<br>6.   | Feb.<br>13. | Feb.<br>20. | Feb.<br>27. |             | Feb.<br>6.   | Feb.<br>13. | Feb.<br>20. | Feb.<br>27. |
| Armagh -  | 7·0          | 23·0        | 42·0        | 42·0        | Limerick -  | 37·9         | 33·7        | 25·3        | 19·6        |
| Belfast - | 30·6         | 26·3        | 30·0        | 26·9        | Lisburn -   | 8·6          | 12·8        | 21·4        | 21·4        |
| Cork -    | 32·5         | 32·5        | 31·8        | 47·7        | Londonderry | 15·7         | 11·0        | 20·4        | 12·6        |
| Drogheda  | 52·7         | 0·0         | 13·2        | 22·0        | Lurgan -    | 31·9         | 27·4        | 31·9        | 22·8        |
| Dublin -  | 32·7         | 31·5        | 36·4        | 38·4        | Newry -     | 36·2         | 24·2        | 20·1        | 16·1        |
| Dundalk-  | 29·3         | 4·2         | 29·3        | 20·9        | Sligo -     | 56·7         | 30·9        | 36·1        | 30·9        |
| Galway -  | 15·1         | 37·3        | 11·3        | 75·6        | Waterford - | 27·5         | 45·0        | 42·5        | 27·5        |
| Kilkenny  | 80·2         | 18·9        | 18·9        | 42·5        | Wexford -   | 49·7         | 36·1        | 22·6        | 40·6        |

In the week ending Saturday, February 6, 1892, the mortality in thirty-three large English towns, including London (in which the rate was 30·6), was equal to an average annual death-rate of 26·2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·0 per 1,000. In Glasgow the rate was 24·7, and in Edinburgh it was 21·2.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 32·0 per 1,000 of the population (unrevised) according to the recent Census.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·8 per 1,000, the rates varying from 0·0 in eight of the districts to 8·1 in Newry—the 9 deaths from all causes registered in that district comprising 2 from diarrhœa. Among the 150 deaths from all causes registered in Belfast are 3 from measles, 1 from scarlatina, 7 from whooping-cough, 1 from diphtheria, 2 from enteric fever, 1 from diarrhœa, 21 from phthisis, and 49 from diseases of the

respiratory system. The 47 deaths in Cork comprise 1 from typhus and 3 from whooping-cough. Three deaths from influenza are specially reported by the Registrar of Waterford No. 1 District, 3 by the Assistant-Registrar of Dundalk District, 1 by the Registrar of Kilkeenny No. 1 District, and 4 by the Registrar of Wexford District.

In the Dublin Registration District the registered births amounted to 189—90 boys and 99 girls; and the registered deaths to 225—114 males and 111 females.

The deaths, which are 3 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 33·6 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 32·7 per 1,000. During the first five weeks of the current year the death-rate averaged 41·6, and was 8·2 over the mean rate in the corresponding period of the ten years 1882—1891.

The number of deaths from zymotic diseases registered is 32, being 6 in excess of the average for the corresponding week of the last ten years, but 10 under the number for the week ended January 30. The 32 deaths comprise 23 from influenza and its complications (a decline of 7 as compared with the number for the preceding week), 2 from whooping-cough, 1 from enteric fever, 3 from diarrhœa, and 1 from erysipelas.

Eleven cases of enteric fever were admitted to hospital, being 3 over the admissions for the preceding week. Five enteric fever patients were discharged, 1 died, and 66 remained under treatment on Saturday, being 5 over the number in hospital at the close of the preceding week.

The hospital admissions for the week include also 11 cases of measles (against 3 for the preceding week) and 3 of scarlatina, but no cases of typhus were received. Sixteen cases of measles, 7 of scarlatina, and 3 of typhus remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had fallen from 127 for the week ended January 23, to 81 for the following week, further declined to 63, but this number is 5 in excess of the average for the fifth week of the last ten years. The 63 deaths comprise 45 from bronchitis and 15 from pneumonia or inflammation of the lungs.

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In the week ending Saturday, February 13, the mortality in thirty-three large English towns, including London (in which the rate was 21·6), was equal to an average annual death-rate of 23·1 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20·8 per 1,000. In Glasgow the rate was 21·2, and in Edinburgh it was 15·1.

The average annual death-rate in the sixteen principal town districts of Ireland was 28·5 per 1,000 of the population (unrevised) according to the recent Census.



The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·1 per 1,000, the rates varying from 0·0 in ten of the districts to 4·5 in Wexford—the 8 deaths from all causes registered in that district comprising 1 from diphtheria. Among the 129 deaths from all causes registered in Belfast are 2 from measles, 2 from scarlatina, 7 from whooping-cough, 5 from enteric fever, 4 from diarrhœa, 21 from phthisis, and 44 from diseases of the respiratory system. The 47 deaths in Cork comprise 5 from whooping-cough, and 1 from simple continued fever. The 24 deaths in Limerick comprise 1 from whooping-cough and 1 from diarrhœa. Six deaths from influenza are specially reported by the Registrar of Waterford No. 1 District, 2 by the Registrar of Wexford District, and 1 by the Registrar of Kilkenny No. 1 District.

In the Dublin Registration District the registered births amounted to 230—130 boys and 100 girls; and the registered deaths to 213—96 males and 117 females.

The deaths, which are 1 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 31·8 in every 1,000 of the population. Omitting the deaths (numbering 2) of persons admitted into public institutions from localities outside the district, the rate was 31·5 per 1,000. During the first six weeks of the current year the death-rate averaged 40·0, and was 6·8 over the mean rate in the corresponding period of the ten years 1882–1891.

Deaths from zymotic diseases, which had fallen from 42 for the week ended January 30, to 32 for the following week, further declined to 19, or 4 under the average for the corresponding week of the last ten years. The 19 deaths comprise 1 from measles, 12 from influenza (being 11 under the number of deaths from that disease for the preceding week), 3 from whooping-cough, 1 from enteric fever, and 1 from diarrhœa.

Eleven cases of enteric fever were admitted to hospital, being equal to the number of admissions for the preceding week. Seven enteric fever patients were discharged, and 70 remained under treatment on Saturday, being 4 over the number in hospital at the close of the preceding week.

The hospital admissions include also 5 cases of measles (being 6 under the number of cases of that disease admitted during the preceding week), and 1 case of typhus, but no cases of scarlatina were received. Nineteen cases of measles, 4 of typhus, and 5 of scarlatina remained under treatment in hospital on Saturday.

Diseases of the respiratory system caused 63 deaths, being equal to the number for the preceding week and 10 in excess of the average for the sixth week of the last ten years. The 63 deaths comprise 42 from bronchitis and 14 from pneumonia or inflammation of the lungs.

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In the week ending Saturday, February 20, the mortality in thirty-three large English towns, including London (in which the rate was 20·7), was equal to an average annual death-rate of 21·1 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20·1 per 1,000. In Glasgow the rate was 21·5, and in Edinburgh it was 17·1.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 31·6 per 1,000 of the unrevised population based on the Census of 1891.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 1·6 per 1,000, the rates varying from 0·0 in eleven of the districts to 10·3 in Sligo—the 7 deaths from all causes registered in that district comprising 2 from diarrhœa. Among the 147 deaths from all causes registered in Belfast are 1 from measles, 6 from whooping-cough, 1 from enteric fever, 4 from diarrhœa, 33 from phthisis, and 33 from diseases of the respiratory system. The Registrar of Waterford No. 1 District specially reports one death from influenza.

In the Dublin Registration District the registered births amounted to 135—74 boys and 61 girls; and the registered deaths to 251—137 males and 114 females.

The deaths, which are 32 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 37·4 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 36·4 per 1,000. During the first seven weeks of the current year the death-rate averaged 39·6, and was 6·5 over the mean rate in the corresponding period of the ten years 1882–1891.

Thirty-two deaths from zymotic diseases were registered, being 9 in excess of the average for the corresponding week of the last ten years, and 13 over the number for the week ended February 13. They comprise 3 from measles, 2 from scarlet fever (scarlatina), 17 from influenza (being 5 over the number of deaths from that disease for the preceding week, but 6 under the number for the week ended February 6), 3 from whooping-cough, 1 from enteric fever, 3 from diarrhœa, and 1 from dysentery.

Only 5 cases of enteric fever were admitted to hospital, being 6 under the number of admissions for each of the two weeks preceding. Thirteen enteric fever patients were discharged, and 62 remained under treatment on Saturday, being 8 under the number in hospital on Saturday, February 13.

Four cases of measles and 2 of scarlatina were admitted to hospital, but no cases of typhus were received. Twenty-one cases of measles, 6 of scarlatina, and 4 of typhus remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered is 61, being 3 over the average for the corresponding week of the last ten years, but 2 under the number for the week ended February 13. The 61 deaths comprise 36 from bronchitis, 10 from pneumonia or inflammation of the lungs, 4 from croup, and 1 from pleurisy.

In the week ending Saturday, February 27, the mortality in thirty-three large English towns, including London (in which the rate was 22·4), was equal to an average annual death-rate of 23·4 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·8 per 1,000. In Glasgow the rate was 24·9, and in Edinburgh it was 18·7.

The average annual death-rate in the sixteen principal town districts of Ireland was 33·3 per 1,000 of the population (unrevised) according to the recent Census.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 2·5 per 1,000, the rates varying from 0·0 in ten of the districts to 5·2 in Sligo—the 6 deaths from all causes registered in that district comprising 1 from diarrhœa. Among the 132 deaths from all causes registered in Belfast are 1 from measles, 1 from typhus, 5 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, 2 from enteric fever, 3 from diarrhœa, 21 from phthisis, and 90 from diseases of the respiratory system. The 69 deaths in Cork comprise 1 from typhus, 5 from whooping-cough, 1 from diarrhœa, 12 from phthisis, and 18 from diseases of the respiratory system. The Registrar of Waterford No. 1 District specially reports 2 deaths from influenza.

In the Dublin Registration District the registered births amounted to 197—103 boys and 94 girls; and the registered deaths to 265—120 males and 145 females.

The deaths, which are 53 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 39·5 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 38·5 per 1,000. During the first eight weeks of the current year the death-rate averaged 39·6, and was 6·6 over the mean rate in the corresponding period of the ten years 1882–1891.

Thirty-four deaths from zymotic diseases were registered, being 2 over the number for the preceding week and 11 in excess of the average for the eighth week of the last ten years. The 34 deaths comprise 3 from measles, 2 from scarlet fever (*scarlatina*), 1 from typhus, 6 from influenza (being a decline of 11 as compared with the number for the preceding week), 8 from whooping-cough, 2 from simple continued and ill-defined fever, 4 from enteric fever, and 2 from diarrhœa. Five of the 8 deaths

from whooping-cough occurred in No. 2 North City—Lisburn-street—District.

Sixteen cases of enteric fever were admitted to hospital, being 11 in excess of the admissions for the preceding week and 5 over the number for the week ended February 13. Twelve enteric fever patients were discharged, 1 died, and 65 remained under treatment on Saturday, being 3 over the number in hospital at the close of the preceding week.

The hospital admissions for the week include, also, 10 cases of measles and 1 case of scarlatina, but no cases of typhus were received. Twenty-two cases of measles, 5 of scarlatina, and 1 of typhus remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system amount to 65, being 4 over the number for the preceding week and 9 in excess of the average for the eighth week of the last ten years. They comprise 52 from bronchitis and 11 from pneumonia or inflammation of the lungs.

#### METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of February, 1892.*

|                                                    |   |   |   |                |
|----------------------------------------------------|---|---|---|----------------|
| Mean Height of Barometer,                          | - | - | - | 29·787 inches. |
| Maximal Height of Barometer (on 13th, at 9 a.m.),  |   |   |   | 30·666 „       |
| Minimal Height of Barometer (on 20th, at midnight) |   |   |   | 29·136 „       |
| Mean Dry-bulb Temperature,                         | - | - | - | 40·8°.         |
| Mean Wet-bulb Temperature,                         | - | - | - | 39·1°.         |
| Mean Dew-point Temperature,                        | - | - | - | 36·5°.         |
| Mean Elastic Force (Tension) of Aqueous Vapour,    | - |   |   | ·221 inch.     |
| Mean Humidity, - . - - -                           | - | - | - | 85·0 per cent. |
| Highest Temperature in Shade (on 7th)              | - |   |   | 54·6°.         |
| Lowest Temperature in Shade (on 17th),             | - |   |   | 26·1°.         |
| Lowest Temperature on Grass (Radiation) (on 17th), |   |   |   | 21·1°.         |
| Mean Amount of Cloud, - - -                        | - | - | - | 68·5 per cent. |
| Rainfall (on 19 days), - - -                       | - | - | - | 2·119 inches.  |
| Greatest Daily Rainfall (on 20th), - - -           | - | - | - | ·531 inch.     |
| General Directions of Wind,                        | - | - | - | W., E.         |

#### *Remarks.*

No greater contrast could there be than between the weather of February, 1892, and that of February, 1891, which proved a record month for drought, mildness, calm, and fogginess combined.

The month now under review was, on the contrary, wet, cold, stormy, and cloudy. Rain or snow fell in measurable quantity on 19 out of 29 days, and on as many as 10 days the wind reached the force of a gale in Dublin. Had it not been for a mild period from the 6th to the 12th, February, 1892, would have proved one of the coldest on record.



In Dublin the mean temperature ( $41\cdot3^{\circ}$ ) was  $1\cdot5^{\circ}$  below the average ( $42\cdot8^{\circ}$ ); the mean dry bulb readings at 9 a.m. and 9 p.m. were  $40\cdot8^{\circ}$ . In the twenty-seven years ending with 1891, February was coldest in 1873 (M. T. =  $37\cdot9^{\circ}$ ), and warmest in 1869 (M. T. =  $46\cdot7^{\circ}$ ). In 1886 the M. T. was  $39\cdot7^{\circ}$ . In the year 1879 (the "cold year") it was  $40\cdot1^{\circ}$ . In 1888 it was as low as  $38\cdot6^{\circ}$ ; in 1889 it was  $40\cdot3^{\circ}$ ; in 1890 it was  $41\cdot5^{\circ}$ ; and in 1891 it was as high as  $44\cdot7^{\circ}$ .

The mean height of the barometer was 29·787 inches, or 0·068 inch below the average value for February—namely, 29·855 inches, and ·611 inch below the mean pressure in February, 1891. The mercury rose to 30·666 inches at 9 a.m. of the 13th, and fell to 29·136 inches at midnight of the 20th. The observed range of atmospherical pressure was, therefore, 1·530 inches—that is, a little over an inch and a half.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was  $40\cdot8^{\circ}$ , or  $2\cdot3^{\circ}$  above the value for January, 1892. Using the formula, *Mean Temp.* = *Min.* + (*max*—*min.*  $\times \cdot50$ ), the M. T. becomes  $41\cdot3^{\circ}$ , compared with a twenty-five years' average of  $42\cdot8^{\circ}$ . On the 7th the thermometer in the screen rose to  $54\cdot6^{\circ}$ —wind, W.; on the 17th the temperature fell to  $26\cdot1^{\circ}$ —wind, W.S.W. The minimum on the grass was  $21\cdot1^{\circ}$  on the 17th.

The rainfall was 2·119 inches, distributed over 19 days. The average rainfall for February in the twenty-five years, 1865–89, inclusive, was 2·150 inches, and the average number of rainy days was 17·2. The rainfall, therefore, was slightly below the average, while the rainy days were above it. In 1883 the rainfall in February was large—3·752 inches on 17 days; in 1879, also, 3·706 inches fell on 23 days. On the other hand, in 1873, only ·925 of an inch was measured on but 8 days; in 1890, only ·802 of an inch fell on but 7 days; and in 1887 only ·541 of an inch fell on 11 days. The rainfall in 1887 was much the smallest recorded in February for very many years. But the record for 1891 is probably unparalleled—·042 inch on 2 days. The nearest approach to this drought was in September, 1865, when only ·056 of an inch of rain was measured on but 3 days.

There was no snow, sleet, or hail in Dublin in February, 1891, but in the present month snow or sleet fell on 8 days—the 1st, 2nd, 15th, 16th, 17th, 18th, 19th, and 20th; while hail was observed on 5 days—the 15th, 16th, 18th, 21st, and 29th.

The atmosphere was foggy on 6 days—namely, the 4th, 6th, 9th, 25th, 26th, and 27th. The amount of cloud—68·5 per cent.—was in excess of the average—66 per cent. High winds were noted on 14 days, reaching the force of a gale on no less than 10 occasions—namely, the 1st, 2nd, 7th, 8th, 15th, 16th, 19th, 20th, 21st, and 23rd.

The temperature exceeded  $50^{\circ}$  in the screen on 6 days, compared with 6 days in January, and as many as 14 days in February, 1891; while it

fell to or below  $32^{\circ}$  in the screen on 5 days, compared with 15 days in January, and with 2 in February, 1891. The minima on the grass were  $32^{\circ}$ , or less, on 16 nights, compared with 25 nights in January, and 17 nights in February, 1891. On 6 days the thermometer failed to rise above  $40^{\circ}$  in the screen.

Very changeable weather prevailed throughout the period ended Saturday, the 6th. Large depressions passed eastwards or northeastwards across Scotland, the Norwegian Sea, and Scandinavia, causing frequent showers, storms, and sudden changes of temperature. The most serious and deepest of these depressions was observed on the evening of Monday, the 1st, when the barometer sank to 28.02 inches by 6 p.m. at Sumburgh Head in the Shetlands. In Dublin Monday broke during the prevalence of a gale from S.W. to W. On this day the weather turned much colder and falls of snow occurred during the ensuing night. Tuesday and Wednesday were cold, but chiefly fine and dry. Thursday was dull, with rain at times—in the evening the sky cleared. Friday was a fine day. Saturday proved dull, damp, foggy, mild, and rainy. A near conjunction of the Moon, Jupiter, and Venus in the southwestern sky was well observed on Monday evening, and on Friday the planets Jupiter and Venus were seen quite close together after dusk. In Dublin the barometer fell to 29.150 inches at 3 p.m. of Tuesday (wind, W.). On Monday the thermometer rose to  $50.8^{\circ}$  in the shade; on Tuesday it fell to  $33.0^{\circ}$ . The rainfall was .242 inch on four days—.121 inch being measured on Monday. The prevailing winds were W. and S.W.

Very dull mild weather prevailed after Monday, the 8th, to the close of the week ended Saturday, the 13th. On Sunday a depression crossed Scotland in an easterly direction, causing fresh or strong westerly winds, and rain at many stations. A secondary disturbance followed at night, being heralded by lunar halos and accompanied by a gale and heavy rain early on Monday morning. The weather then cleared and remained fair and cool until 6 a.m. of Tuesday, when foggy, damp, cloudy weather set in. An anticyclone was at this time found over the S. of Ireland, the S.W. of England, and Brittany, as well as over the Atlantic to the southwestward of the British Islands. This high pressure system daily increased in intensity, until on Saturday morning the barometer stood as high as 30.67 inches in Dublin, 30.70 inches at Valentia Island, and 30.73 inches at Belmullet. On Thursday night the sky cleared over the S.E. of England, where temperature consequently fell fast, so that frost occurred on Friday morning. A similar clearing of the sky took place in Dublin at midnight of Friday, resulting in a rapid decrease of temperature for the time being. By 8 a.m. of Saturday, however, the sky had again become overcast. In Dublin the mean atmospherical pressure was 30.341 inches, or more than three-quarters of an inch above the value for the previous week (29.566 inches). The barometer fell to

29·730 inches at 4 p.m. of Sunday (wind, W.), and rose to 30·666 inches at 9 a.m. of Saturday (wind, N.N.W.). The mean temperature was 46·5°, the mean dry bulb temperature at 9 a.m. and 9 p.m. being 46·3°. The thermometers in the screen rose to 54·6° on Sunday and fell to 38·9° on Saturday. The rainfall was ·333 inch on three days, ·310 inch being referred to Sunday. The prevailing winds were W. and N.W. The percentage of cloud during the week was 75.

It is not often that, even in the variable climate of the British Islands, so complete a *volte-face* occurs in the weather of two consecutive weeks as that which we have now to chronicle. The week ending the 13th was dull, mild, and genial, with moderate westerly winds: the week now under review was inclement, cold, and stormy, with frequent falls of snow and hail, and a prevalence of piercing, dry easterly winds. The change began early on Sunday morning with a rapid decrease of both pressure and temperature as an extensive depression advanced from the northward, passing in a southerly direction across Great Britain. A heavy shower of cold rain fell in Dublin at 3 30 p.m. of Sunday, the 14th, after which the sky cleared with ever-increasing cold. Snow, sleet, and hail fell on Monday, when the wind shifted to E., and finally rose to a gale. A new disturbance on Wednesday caused a temporary shift of wind to W., and a fall of snow, followed by a thaw. Next day the wind returned to the eastward and snow and hail fell in abundance. On Friday and Saturday a severe easterly gale prevailed with heavy snow-storms. At first the air was unusually dry, the relative humidity falling to 55 per cent. at 9 a.m. of Friday. Afterwards the air became damp and raw, with a gradual thaw on Saturday. The cold in central England was at times very intense—at Loughborough, in Leicestershire, the thermometer in the screen fell to 0° (zero) on Wednesday and to 4° on Friday, when the minimum at York also was 7°. On this day the unusually low reading -2° was recorded at Braemar in Scotland and Newton Reigny in Cumberland. In Dublin the mean pressure was 29·526 inches, the barometer ranging between 30·193 inches at 9 a.m. of Sunday (wind, W.) and 29·136 inches at midnight of Saturday (wind, E.). The corrected mean temperature was 35·1°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 34·6°. The screened thermometers rose to 48·6° on Sunday and fell to 26·1° on Wednesday. The rainfall consisted chiefly of snow and hail. It amounted to ·937 inch on 7 days. The heaviest fall was ·531 inch on Saturday. The prevailing winds were W.N.W. and E.N.E.

During the week ended Saturday, the 27th, the weather was for the most part dull, rainy, and cold, with persistent south-easterly winds and cloudy skies. A large anticyclone was found throughout over eastern and northern Europe, while a deep depression passed slowly away to sea from the S.W. of Ireland, to which locality it had advanced from the

southward on Saturday, the 20th. At 8 a.m. of Sunday, the 21st, the barometer was as low as 28·89 inches at Valentia Island in Kerry, or exactly one inch lower than the reading in the Shetlands at the same time. During the previous night a whole gale to a storm from the eastward had been experienced in Ireland, where snow, sleet, and rain fell in large quantities. While the depression in the S.W. was gradually "filling up" and moving away over the Atlantic, the weather remained dull and wet, with strong and squally S.E. winds. On Friday atmospherical pressure became uniform over Ireland, where the sky cleared temporarily and the thermometer fell fast. Saturday proved gloomy and cold with a freshening easterly to north-easterly wind. In Dublin the mean height of the barometer was 29·671 inches, pressure increasing from 29·188 inches at 9 a.m. of Sunday (wind, S.E.) to 30·119 inches at 9 a.m. of Saturday (wind, E. by N.). The mean temperature was 42·2°. The mean dry bulb readings at 9 a.m. and 9 p.m. were 42·4°. The screened thermometers rose to 47·7° on Friday and fell to 33·8° early on Saturday. The rainfall amounted to ·605 inch on five days. Of this quantity, ·153 inch was measured on Tuesday. Thunder and lightning were rather prevalent in the south. The wind was constantly S.S.E. or S.E. until Saturday, when it backed to E.N.E.

The last two days of the month were cold, changeable, and for the most part dull. A shower of hail fell on the afternoon of the 29th.

In Dublin the rainfall up to February 29, 1892, has amounted to 3·817 inches on 39 days, compared with ·714 inch on 16 days in the same period in 1891, and a twenty-five years' (1865–1889) average of 4·350 inches on 34·5 days.

At Knockdolian, Greystones, Co. Wicklow, 2·165 inches of rain fell in February, on 16 days; and only 1·045 inches in January, on 15 days. The total fall to February 29th inclusive has been 3·210 inches, on 31 days.

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#### LEAD-POISONING IN NEW SOUTH WALES.

In a recent issue of the *Australasian Medical Gazette* there is an amusing case of "lead"-poisoning, gravely reported and justly called a "remarkable case." The reporter's daughter "accidentally fell when running, and broke the point of a black lead pencil in the back part of her hand." A "bit of lead (about 2 grains)" remained imbedded for six or seven weeks, and produced optic neuritis until removed. The doctor had "often attended patients suffering from lead-colic, but the symptoms in the present case were somewhat of a different character." The most remarkable thing about the case is that the editor prints it in full, with its title, "Remarkable Case of Lead-Poisoning," contenting himself with a mild note "reminding" the writer that plumbago contains no lead!



## PERISCOPE.

### CLINICAL AND THERAPEUTIC NOTES ON INFLUENZA.

DR. C. R. ILLINGWORTH, of Clayton-le-Moors, writes under date of March 5, 1892:—"The incubation period of the disease is exactly three days. I recognise two types—the pulmonary, with marked chest mischief, and the peripheral, with great bodily pain but slight chest mischief. The curative agents are germicidal and febrifuge or antipyretic. The particular agents employed depend upon the predominant inflammation; but I maintain that the indications are the same in all. They are—firstly, to diminish the excess of fibrin in the blood; and, secondly, to lessen the excited action of the heart and blood-vessels: thus at once relieving the tension and pain caused by the blood-stasis of inflammation, and lowering the temperature by diminishing heart-work. Complete testimony has been forthcoming from the profession as to the value in the treatment of influenza of drugs possessing these valuable properties. Thus, amongst antifibrinating agents there are, in order of potency, antipyrin and its congeners, the salicylates, iodides, acetates, carbonates, and nitrates of ammonia, soda, and potash, &c., all of which have been successfully prescribed, either singly or in combination with the cardiac depressants, aconite, digitalis, and ipecacuan. At the same time, simple but nourishing food has been ordered at regular intervals, and—contrary to the popular notion—the avoidance at first of alcohol, for obvious reasons. Amongst germicidal agents, encalyptus, carbolic acid, mercury biniodide, &c., have been used successfully, some as inhaled vapours and others as internal medicaments. In the pulmonary, which is the prevalent and fatal type, treatment with nitrous ether, ipecacuan, iron, and 2-minim doses of opium (as a sedative), and the constant use of some microbicide vapour, has answered excellently. Antipyrin and all other fluidising drugs are dangerous in this form. In the peripheral forms, a combination of acetate of ammonia, 2-grain doses of antifebrin, from 2 to 5-minim doses of aconite, and half-drachm doses of solution of mercury biniodide, given every two hours, acts very rapidly in aborting the disease in from 10 to 18 hours. For the slight remaining cough, sulphuric acid, opium, and carbolic acid suffice. But, although all inflammatory disorders are characterised by excessive fibrination of the blood, there are two causes in influenza which inevitably lead to an opposite state of the vital fluid; and it is in reference to this defibrination that special precautions should be taken in treatment. The first is one which operates in all specific febrile disorders—the depredations by micro-

organisms upon the fibrin-elements of the blood, in some cases so extensive as to cause malignancy and rapid death; and the other, common to all pulmonary inflammatory disorders, the mechanical interference with the oxygenation of the blood by intense congestion and increased phlegm-secretion. The symptoms of this condition are a dusky hue of the skin, weak and fluttering pulse, laboured breathing, loud râles, and abundant watery phlegm. When this condition threatens, all antifibrinating agents should at once be stopped, and 5-minim doses of the strong perchloride of iron given every two hours, to astringe and give fibrin to the blood, and tone to the heart, blood, and nerves for the prevention of further effusion into the bronchial tract. Alcohol is also clearly indicated in full doses, at stated intervals, but no sedative should be prescribed. With the knowledge, therefore, that iron is compatible with the other ingredients of the mixture, I prescribe it in all pulmonary cases of influenza from the first, and thus either entirely prevent or very greatly modify this dangerous and fatal effusion, with the result that instead of having such cases down for twelve or fourteen days, I cut the attack short in four or five. In those cases of the disease in which great cardiac debility with asthmatic tendencies are evidenced, I give 6-minim doses of belladonna, with the iron, and at the same time omit the ipecacuan, as a cardiac depressant of any kind increases the mischief. A valuable tonic for the consequent debility I have always found in the time-honoured mixture of hydrochloric acid, chlorate of potash, and steel. *Remarks:—*The potency of the biniodide as a germicide is indisputable, but its powers are marvellously enhanced by its ready solubility in so diffusible an agent as sodic iodide, a salt the chief characteristic of which is its fibrin-solvent power. Hence the rapidity of the curative action of Hg. I<sub>2</sub> in hay asthma, and in the local manifestations of syphilis, scarlet fever, diphtheria, &c.”

THE ELEVENTH INTERNATIONAL MEDICAL CONGRESS, ROME, 1893.

At the closing meeting of the Tenth International Medical Congress, held at Berlin in 1890, Rome was selected as the seat of the Congress in 1893, and Rudolph Virchow resigned the presidency to Prof. Guido Baccelli. The Presidents of the Medical Faculties, of the Universities, and of the Scientific Institutions of Italy, together with the most prominent Italian physicians and surgeons, have met in Rome in order to make arrangements for the coming Eleventh International Medical Congress. Professor Guido Baccelli has been nominated President-General; Prof. Edoardo Maragliano, clinical physician in Genoa, has been elected Secretary-General; Comm. Prof. Pagliani, Director-General for Public Health in Italy, Treasurer; and Comm. Ferrando, Chief of the Department of the Minister of Public Instruction, Manager. At the same time, executive committees were elected by ballot for the 14 sections, corresponding

with the following division of the scientific work of the Congress:— I. Anatomy; II. Physiology; III. Clinical Medicine; IV. Gynæcology; V. General Pathology and Pathological Anatomy; VI. Pharmacy; VII. Surgery and Orthopædics; VIII. Psychiatry and Neuropathology; IX. Ophthalmology; X. Dermosyphilopathy; XI. Legal Medicine; XII. Hygiene; XIII. Laryngology and Otology; XIV. Military Medicine and Surgery. The Central Committee has recently elected foreign Committees for the purpose of inviting every nation in the world to take part in the Congress, so that it may prove worthy of its predecessors and also of Rome. The time, so far, chosen for the convocation of the Congress is the month of September, a period when very fine and splendid weather adds to the many fascinating attractions of the Italian capital. All the preparations proceed with promptness and give assurance of a great and unqualified success. Letters on the business of the Congress should be addressed to the Secretary-General, Professor E. Maragliano, Istituto di Clinica Medica, Ospedale Pammatone, Genoa, Italy.

#### THE LOCAL GOVERNMENT (IRELAND) BILL, 1892.

IN considering the provisions of this Bill which immediately affect the medical profession, and leaving out other questions, we find that Clause 10 provides for the transfer to the county councils of the powers of the present boards of poor-law guardians, acting as the local authority, in regard to the Contagious Diseases (Animals) Acts, 1878 to 1890, and the Destructive Insects Act, 1877. Again, Clause 12 enables the county councils to take over the powers of boards of guardians acting as rural sanitary authorities under the following very important measures: The Public Health (Ireland) Act, 1878; the Housing of the Working Classes Act, 1890; the Labourers (Ireland) Acts, 1883 to 1886; the Factory and Workshop Act, 1891; and the Acts amending any of these measures, as well as any other Act conferring powers and duties on rural sanitary authorities as such. For the carrying out of the business so transferred, any county council may divide their county into such "sanitary districts" as (with the approval of the Local Government Board) they may think suitable; and they may delegate the sanitary administration of such a district to a "sanitary committee" composed of county councillors and councillors of the baronies comprised wholly or in part in the district. The county council may appoint officers under the sanitary Acts either for the whole county or for any part of the same. This provision, of course, includes the appointment of medical officers of health, and we may here express the hope that advantage will be taken of it to put a stop to the present system of appointing a consulting sanitary officer at a wretchedly inadequate salary for every poor-law union, which is the existing unit of a rural sanitary district in Ireland under the Public Health Act of 1878 (see Section 6 of that Act). There

is no reason why, under Clause 12, a medical officer of health at a good salary should not be appointed for an entire county. We would go further, and suggest that the clause should be amended so as to allow several county councils to unite in appointing a first-class specialist as medical officer of health at a salary which would render him independent in the fullest sense of the term. Unfortunately, this Clause 12 is permissive, not compulsory—at least it is not until the councils of not less than three-fourths in number of all the counties in Ireland have adopted the clause that the Lord Lieutenant may, by an Order in Council, direct that it shall have effect in the remaining counties. We are at a loss to understand in what relation the dispensary medical officers—who, under Section 11 of the Public Health (Ireland) Act, 1878, are medical officers of health for their several districts—will stand to the Bill now before us. They are appointed by their respective dispensary committees, subject to the approval of the several boards of poor-law guardians, and will, therefore, owe no allegiance to the county councils or the sanitary committees appointed by the latter. In our opinion, it would be well to supersede the existing by a brand-new sanitary organisation. So far as its medical aspect is concerned, the present sanitary organisation in Ireland has signally failed, mainly from two causes—first, want of independent supervision; and, secondly, inadequate remuneration. The Act of 1878 by Section 11 gives only a permissive power to the Local Government Board to provide independent supervision, and naturally this power in consequence has not been exercised. Again, the remuneration allowed to medical officers of health by the various sanitary authorities under the sanction of the Local Government Board is—except in a very few instances—so shamefully inadequate that the only possible result is practically to render the Act a dead letter so far as medical inspection or advice is concerned. Let us look a little more closely into these two points—supervision and remuneration. Anyone who will consider the relations existing between the district medical officers of health and the district sanitary authorities will scarcely deny the expediency—nay, the necessity, of providing independent supervision. Representations on this subject were repeatedly made to the Government at the time of the passing of the Public Health Act in 1878, but the stereotyped official answer invariably was that independent supervision was a matter for administration, and not one requiring legislation. Be this as it may, at present no such thing as independent supervision exists in Ireland, except perhaps in Dublin and Belfast. On the contrary, the sanitary authorities have been satisfied with appointing a nondescript class of officials called “consulting sanitary officers.” These gentlemen are generally the work-house medical officers, directly dependent on the boards of guardians who appoint and pay them. “Pay them!” Hear the Report of the Royal Commission on Local Government and Taxation of Towns in Ireland (1877)



on this point :—"In name there is generally a consulting sanitary officer, at a ludicrously small salary, but he is rarely consulted, and, except at Belfast, it is a perfect misnomer." Another burning question is that of the remuneration to be awarded to the medical sanitary staff of the country. Immediately on the passing of the Public Health Act of 1874, the Local Government Board for Ireland sent a general order to the sanitary authorities throughout the country to the effect that the salaries paid to the "sanitary officers" (medical officers of health) should not exceed one-fourth of the amount of their salaries as dispensary medical officers. By this extraordinary order it is needless to say that the prospects of effective sanitation in Ireland were virtually ruined for the time being. It is true that, owing to strong remonstrances made to the Government, the objectionable provision by which a maximal scale of remuneration was fixed for the services of the medical officers of health was withdrawn when the Act of 1878 became law. But it is equally true that no serious attempt has been made in accordance with the spirit of that Act to terminate the grievance in regard to salary under which the district medical officers of health had previously laboured. It seems to us that the present is a favourable opportunity to remodel the whole sanitary organisation of Ireland, and that clauses for that purpose should be introduced into the Local Government Bill now under review. Certain it is that, if the Bill passes in its present form, confusion will be rendered worse confounded as regards sanitary matters. In Clause 52 an invidious distinction is drawn between the county surveyor and the medical officer of health—the former officer cannot be dismissed by the county council, who may "remove at their pleasure" the medical officer of health and other officers. Sections 214 and 215 of the Public Health (Ireland) Act, 1878, which relate to the making of provisional orders by the Local Government Board, are to apply for the purposes of the Local Government Bill, as if re-enacted in it, and in terms made applicable thereto. Similarly, Sections 209, 210, 212, and 213 of the same Act, relating to the holding of local inquiries by the Local Government Board, are to be re-enacted and incorporated in the Bill. Apart from the clauses which bear upon the sanitary administration of the country, those which confer new powers upon the county council possess great interest for the medical profession. We allude particularly to Clause 15, which confers upon the county council the right to appoint at least one-half of the governors or directors of the district lunatic asylum; Clause 16, which vests in the county council the right of appointing annually five governors of any county infirmary or hospital to which a contribution is made out of county cess—such governors to be members of the body corporate of the infirmary or hospital in question; and Clause 17, which transfers from the Parliamentary electors to the county council the right of appointing a coroner for the county or any district in it. The fore-

going analysis of some of the important provisions of this Bill will show how closely its passage through Parliament will require to be watched if the interests of the medical profession are to be efficiently safeguarded.—*British Medical Journal*.

## CLINIQUE FRANCAISE.

WE have received the programme of the Clinique Française, the Paris School of Medico-Chirurgical Practice. The object of the institution is "to group in one spot, open all the year round, the various general and special hospital clinics, so as to facilitate for students and for practitioners the rapid study (primary, or by way of repetition) of the actual practice of the healing art." Hitherto it has been almost impossible for either French students or foreign visitors to obtain opportunities of manipulating the instruments and apparatus indispensable for the diagnosis and treatment of diseases of the eye, the nose, the ear, the mouth, the larynx, the urinary passages, &c. In order to study nervous diseases, skin diseases, syphilis, diseases of children, orthopædics, general surgery, anaesthesia, gynaecology, biological chemistry, bacteriology, it was necessary to visit twenty hospitals or dispensaries, one after the other, while certain branches of medical science were not taught anywhere—such as massage, hydrotherapy, electrotherapy, vaccination, hypodermic injection. To obviate these difficulties the school was established. Each of the subjects enumerated above is taught in a special, theoretical, and practical two-months course of lectures, and, independently of these, the authors of new discoveries in any of these subjects deliver special addresses. The programme before us gives the syllabus of each course. The classes appear to be absolutely free to all.

## DEATH-RATE IN RUSSIA.

THE *Cincinnati Medical News* states that mortality is much higher in Russia than in other countries. Of 1,400,000 male children born in 1855, within twenty-one years (in 1876—time of the conscription) 610,000, or 43 per 100 only, were found living. Among 1,512,202 boys born in 1862, in 1882 (time of the conscription) 777,769, or 51 per 100, were found living. Among 382,109 called in 1884, 71,607 men, or 19 per 100, were found, after medical examination, incapable for military service. The military incapacity is in most cases determined (in 32·9 per 100 cases) by affection of the bones, articulations, and muscles.

## SPIRIT-DRINKING ON THE CONTINENT.

THE *Journal of the American Medical Association* gives some figures inconsistent with popular beliefs as to the consumption of spirits in some of the continental States. In the German Empire, for instance, commonly supposed to be addicted to beer-drinking, less than half a pint a day is consumed

for each individual of the population, while in the absorption of spirits it ranks third of European States. Denmark consumes 20 litres a head per annum, Russia 12, Germany 11. In France the consumption of spirits is steadily and rapidly increasing. In the department of Lower Seine it amounted in 1890 to 3 gallons per head.

#### MEDICINE IN PUEBLA.

WE are glad to see that Puebla, a city of 90,000 inhabitants, is able to start, and, we trust, to maintain, a medical periodical of its own; and we welcome our infant contemporary, the *Boletín Médico de Puebla*. It is a monthly journal; annual subscription, one dollar, each number containing twelve large pages. There is a powerful staff of editors, amongst them two Drs. O'farrill—a name which looks familiar. We notice that in the first quarter of 1891, 662 deaths were registered—a mortality of 2·68 per mille per mensem, but, as only one death is attributed to parturition, it is to be feared that registration is not absolutely perfect. By far the largest number of deaths in that quarter are attributed to pneumonia, 58 to eclampsia, and 48 to various forms of enteritis, 29 to small-pox, 15 to typhus.

#### PRESERVATIVE FOR STEEL PENS.

How to keep your favourite pen from rusting is one of the most desirable of secrets; and if our contemporary, the *Répertoire de Pharmacie*, is correct, it is a very simple matter. After, like ourselves, trying a number of remedies, the end desired was found by sticking the point of the pen into a raw potato. [We are inclined to think that the idea was borrowed from Ireland, for we remember seeing the familiar "Murphy" acting as a penwiper for some of our readers.—ED.]

#### L'UNIVERS MÉDICALE

Is a comparatively recent addition to the ever-increasing list of medical periodicals. It is issued monthly in Paris, edited by Dr. E. Sereno, and devoted to "diseases of women and medical electricity." It gives 20 octavo pages for fourpence sterling. The number before us contains the continuation of an elaborate paper by the editor on the differential diagnosis of uterine tumours. The purely electrical information is rather elementary; but we have an alphabetical list—from *accouchement* to *vomissements*—of 108 morbid conditions for which electricity is the cure. Within the limits self-imposed the contents are varied.

#### THE CHICAGO MEDICAL RECORDER.

THIS monthly is the Journal of the Chicago Medical Society. The number now before us (Nov. 1891) contains 106 octavo pages, well printed on excellent paper, price one shilling. Eighty pages are taken

up with the proceedings of the Medical and other societies, 3 pages with reviews, and 70 with original contributions of which there are ten, including a Presidential Address. It is significant that five of the ten papers are devoted more or less directly to typhoid fever, which appears to be endemic in Chicago. We observe in the Health Office Report for October, that in a population of 1,200,000, 171 deaths were due to this disease—nearly 9 per cent. The total mortality for the month was 1,010—"15·85 per thousand of population October, 1890," but "19·10 per thousand of population." The other principal causes of death were phthisis, 160; violence, 162; diphtheria, 124; pneumonia, 112; scarlatina, 43; suicide, 33. 780 children under five died.

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## NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

### *Ready-made Poultices.*

MESSRS. SACKLINS and Co., of 20 Royal Exchange, London, have patented ingeniously-designed linseed and mustard poultices, which cannot fail to supply the want long felt for a serviceable and cleanly poultice.

Both the linseed and the mustard poultices have waterproof backs and muslin faces. They are prepared of two sizes—the smaller,  $7\frac{1}{2}$  inches square, has four sections; the larger, 23 inches by  $7\frac{1}{2}$ , has twelve similar sections. These poultices may be used whole, or they may be divided into portions of the required size by cutting between the close parallel seams which separate the sections from each other.

The linseed poultice is a real poultice of pure crushed linseed said to be rendered aseptic. These poultices are ready for immediate use and merely require soaking with boiling water poured from a kettle. When applied to unbroken skin (as in chest affections) they may be re-dipped in boiling water and used fifteen or twenty times consecutively, they will thus be found 60 to 80 per cent. less costly than poultices as ordinarily made. They are prepared with about one-tenth of the trouble, and are much more cleanly and effective.

The mustard poultice is made of pure brown mustard flour, and ground mustard husk which contains a bland soothing oil. These poultices require moistening with warm water and can be worn for hours by adults. Delicate invalids and children can wear them long enough to derive full benefit from using them, and it is obvious that the benefit derived from a prolonged application of these comfortable mustard poultices is much greater than is the case with home-made blisters or mustard leaves that are most frequently rejected by the patient before any appreciable advantage has been gained by using them.

The poultices cost sixpence, or one shilling and sixpence each, according to size.



*Autometric Stopper.*

In the number of this Journal for June, 1888 (Vol. LXXXV., No. 198, third Series, page 560), we noticed with approval a process for the extemporaneous production of decoctions, infusions, tinctures, and syrups then recently introduced by the well-known manufacturing chemists, Messrs. Fletcher, Fletcher, & Stevenson, of the North London Chemical Works, Holloway. The object of the new autometric stopper, an ingenious invention by the same firm, is to enable their "concentrated liquors," prepared by the above-mentioned process, to be conveniently and rapidly dispensed without the necessity of using a separate glass measure.

As a reference to the accompanying illustration will show, the arrangement consists of a stopper formed of pure unvulcanised rubber, through which passes a strong glass pipette, accurately graduated in 5-minim divisions, up to 120 minims. Attached to the tube is a rubber air-ball. On removing the stopper and attachment, and slightly compressing the ball, the required volume of liquor can be immediately withdrawn and transferred to the bottle which is to contain the medicine.

Full particulars of the strength and dose of each of the "concentrated liquors" are contained in a little pocket-list, which may be obtained on application to the firm at their business address, 21 Mincing Lane, London, E.C.

*Malt Pastilles.*

Messrs. Rowntree and Co., of the Cocoa Works, York, have, after more than two years' patient study, produced a delicious sweetmeat for which they claim the following advantages:—

1. The "Malt Pastilles" contain an unusually large amount of malt extract.
2. They are absolutely free from alcohol.
3. As a sweetmeat they are very pleasant and nutritious.
4. A large amount of the diastatic activity—which makes the extract so valuable as an aid to digestion—of the malt extract has been preserved.

The pastilles are very palatable, and are particularly acceptable to children. We have little doubt that they will quickly win their way into popular favour.

## A DISCLAIMER BY DR. A. G. AULD.

DR. AULD writes to us as follows, with an intimation that he intends his letter for publication:—

“3 LUGAR-PLACE,

“KELVINSIDE, GLASGOW,

“March 15th, 1892.

“To the Editor of the DUBLIN JOURNAL OF MEDICAL SCIENCE.

“SIR,

“A notice of my book on Bronchial Affections and Pneumonia in your current issue has come before me. Your Reviewer has made statements contrary to fact. I nowhere in my book hold that pus cells are formed from epithelium, or that proliferated muscle cells may undergo further alterations. I never said that the views of Rindfleisch and Buhl were a travesty of the whole subject of inflammation, but that to apply their views to the *resolution stage of pneumonia* would be a travesty of inflammation.

“If your Reviewer would stick to the text, instead of making random statements, his judgment on my attitude towards other pathologists would be likely to carry more weight.

“I am, sir,

“Your obedient servant,

“A. G. AULD.”

Although we reserve to ourselves the right of criticising any work which may be sent to this Journal for review without fear or favour, we willingly insert Dr. Auld's letter as he requests.

In doing so, however, we feel that, in justice to ourselves, we should briefly state the grounds upon which we based the remarks upon his book, of which Dr. Auld complains:—

The author describes a multiplication of nuclei in the epithelial cells of the bronchi. He says (page 26) it might be supposed that the nuclei were pus corpuscles which had penetrated into the cell; but he does not admit this explanation, and holds that this contention is useless, as no lymph corpuscles have as yet passed through the basement membrane, and fission of the protoplasm of the epithelial cells is taking place. It is certainly implied that this fission gives rise to objects which may be mistaken for pus corpuscles. As a result of the fission are produced spherical cells, which exhibit amœboid movements and behave generally as white blood. Further (p. 26), “the rounded cells of Debove's layer” (generally looked on as a deeper layer of epithelial: *cf.* Hamilton, “Bronchitis,” p. 5) “proliferate and give rise to round cells resembling pus cells.”

On again carefully reading the passages referred to, we cannot help thinking that the statement made in the review is justified by the text.

P. 50, "I have obtained unequivocal evidence of the participation to a very extensive degree of the muscular coat of the affected blood-vessels in the obliterative thickening. The staff-shaped nuclei were actively proliferating and extending in strings from the muscularis across the intima and mingling with the nuclear new formation derived from the latter." As stated in the review, the author does not say definitely what becomes of these strings of nuclei. But as no one, so far as we know, has ever seen a blood-vessel obliterated by muscular tissue, but always by connective tissue, it is not unnatural to assume that the muscular nuclei mingled with the connective tissue nuclei were supposed to undergo the same development as the latter.

P. 125, "Now to maintain that a lobar pneumonia *terminates* by a catarrhal pneumonia, as Rindfleisch, Buhl, and not a few others have imagined, is a pure travesty of the whole subject of inflammation." This sentence appears to us to justify the statement in the review. That such a termination does occur is the view or opinion of Rindfleisch and Buhl. This view Dr. Auld looks on as a travesty of the whole subject of inflammation.

Finally, on a reconsideration of the whole matter, we fail to see that we have done Dr. Auld any injustice. We had no object, and certainly no wish, to do other than write fairly of his work. As we have said, we differ from him in many points, and in others we fail to understand clearly what his own views are, owing to the obscurity with which they are expressed; but we think that there are few persons moderately acquainted with pathology who will look on our review as unjust or as being so full of random statements as Dr. Auld considers.

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#### ACROMEGALY.

IN the October number of the *Occidental Medical Times*, Dr. Geo. B. Somers, of San Francisco, reports a case of acromegaly. In discussing the ætiology, he dismisses as untenable Klebs' theory that the disease is due to a persistent thymus gland—and in Dr. Somers' case no thymus was found—and Freund's, that it is "an inversion in the evolution of the reproductive life." Unfortunately the autopsy was hastily performed, and neither the cerebro-spinal nor the sympathetic nervous system could be examined, so that Marie's theory—that acromegaly is "a dystrophy allied to myxœdema and affecting some organ (as yet unknown, but possibly the pituitary body) of trophic functions, whose relations are to acromegaly as those of the thyroid gland are to myxœdema"—was not tested in this case. The imperfect autopsy threw no light on the pathogeny of the affection.

# MALTO-CARNIS

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BEEF, MALT, AND COCOA.

"CAFFYN'S MALTO-CARNIS consists of two-thirds (66%) of Caffyn's Liquor Carnis, 'uncooked juice of beef,' in combination with Extract of Malt and Cocoa. Dyspeptic persons who have been recommended to eschew tea would do well to give Caffyn's Malto-Carnis a trial, and in other and similar diseased conditions, the preparation will doubtless prove useful."—*The Medical Press*.



TWO SHILLINGS & SIXPENCE.

COPY OF CIRCULAR LETTER issued concerning HOSPITAL SIZES of CAFFYN'S LIQUOR CARNIS and MALTO-CARNIS, as supplied from March 1, 1892.

*The Secretary, ——— Hospital*

SIR,—We hasten to inform you, that at the suggestion of a great many Hospital Secretaries, and other gentlemen, we have commenced putting up Caffyn's Liquor Carnis and Malto-Carnis in larger sizes for Benevolent Institutions, which enables us to charge a much lower rate for supplies.

Imperial pints, Liquor Carnis (Caffyn), we now supply at 77/- per dozen, and glass jars containing over a pound weight of Malto-Carnis (Caffyn) at 53/- per dozen.

If you would please note and draw the attention of your Hospital staff to this, we should esteem it a special favour, and trust that we may receive your early instructions.

Yours, &c.,

**The LIQUOR CARNIS CO., Ltd.**

W. SHEPPERSON,  
*Managing Director.*

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# FOR DISEASES OF THE STOMACH, AND INDIGESTION *Lactopeptine.*

Exact Size and Shape  
of Bottle.



LACTOPEPTINE contains the five active agents of digestion, combined in the same proportion as they exist in the human stomach, and will digest food in a manner identical to that obtained under the influence of the natural gastric juice.

LACTOPEPTINE will be found far superior to all other remedies in Indigestion, Dyspepsia, and kindred diseases.

Also, particularly indicated in Anemia, General Debility, Chronic Diarrhoea, Constipation, Headache, Vomiting and Nausea in Pregnancy, and impoverished condition of the blood.

PRICE, 4/6.

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It is conclusively ascertained that LACTOPEPTINE will bring about the Digestion of Food in a manner perfectly identical to that obtained under the influence of the natural gastric juice.

THE extended use and adoption of LACTOPEPTINE by the MEDICAL PROFESSION affords indisputable evidence that its therapeutic value has been thoroughly established in cases of Indigestion, Dyspepsia, Loss of appetite, Impoverished Blood, General Debility, Intestinal and Wasting Diseases of Children, Chronic Diarrhoea, Constipation, Vomiting in Pregnancy, Headache, Nausea, and all diseases arising from imperfect nutrition.

From "RETROSPECT OF PRACTICAL MEDICINE AND SURGERY,"  
July, 1877.

"A glance at the formula of LACTOPEPTINE would convince even the most sceptical of the valuable results that must ensue through its administration. It is a combination of all the digestive agents, consequently can never be administered without giving the utmost satisfaction.

Extract from Certificate of Composition and Properties, by

Professor ATTFIELD, Ph.D.,

Professor of Practical Chemistry to the Pharmaceutical  
Society of Great Britain.

LONDON, May 3rd, 1882.

I now report that the almost inodorous and tasteless pulverulent substance termed Lactopeptine is a mixture of the three chief agents which enable ourselves and all animals to digest food. That is to say, Lactopeptine is a skilfully-prepared combination of meat-converting, fat-converting, and starch-converting materials, acidified with those small proportions of the acids that are always present in the healthy stomach; all being disseminated in an appropriate vehicle, namely, powdered sugar of milk. The acids used at the factory—lactic and hydrochloric—are the best to be met with, and are perfectly combined to form a permanent preparation; the milk sugar is absolutely pure; the powder known as "diastase," or starch-digesting (bread, potato, and pastry-digesting) material, as well as the "pancreatin," or fat-digesting ingredient, are as good as any I can prepare, while the pepsin is much superior to that ordinarily used in medicine. Indeed, as regards this chief ingredient, pepsin—I have only met with one European or American specimen equal to that made and used by the Manufacturer of Lactopeptine. A perfectly parallel series of experiments showed that any given weight of acidified pepsin alone at first acts somewhat more rapidly than Lactopeptine containing the same weight of the same pepsin. Sooner or later, however, the action of the Lactopeptine overtakes and outstrips that of pepsin alone—due, no doubt, to the meat-digesting, as well as fat-digesting, power of the pancreatin contained in the Lactopeptine. My conclusion is that Lactopeptine is a most valuable digesting agent, and superior to pepsin alone. JOHN ATTFIELD.

One of the chief features of LACTOPEPTINE (and the one which must gain it a preference over all digestive preparations) is, that it *precisely represents in composition the natural digestive juices of the stomach, pancreas, and salivary glands*, and will therefore readily dissolve all foods necessary to the recuperation of the human organism.

**DOSE.—ONE-THIRD** that of cheap substitutes, and giving results not within the compass of any other agent.

Prices of Lactopeptine:—1 oz., 4s. 6d.; 4 oz., 14s.; 8 oz., 27s.

Unstamped, for Dispensing Only—Quarter Pound (4 oz.), 12s.; Half-pound (8 oz.), 24s.

**Lactopeptine is prepared solely by JOHN M. RICHARDS,**

(Late Great Russell Street) **46 Holborn Viaduct, London, E.C.**

**NOTE.**—A 64-page pamphlet and Sample of Lactopeptine sent to the Medical Profession, on request.

CLUB ALE. CLUB SODA. CLUB LEMONADE.

# Cantrell & Cochrane's

PURVEYORS  
TO H.R.H.  
THE PRINCE OF WALES



NASSAUWORKS  
**DUBLIN.**

PURVEYORS TO  
HER MAJESTY'S HOUSES OF PARLIAMENT



**27 GOLD  
& PRIZE MEDALS  
AWARDED.**

CROMAC BUILDINGS  
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REGISTERED TRADE MARK  
 CLUB SODA  
 (SPECIALLY PREPARED)  
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 WORKS - DUBLIN & BELFAST.  
 MANUFACTURED BY H.M. ROYAL LETTERS PATENT

Only Makers of Sparkling **"MONTSERRAT,"**  
The Drink for the Gouty and Rheumatic.

## Bullock's Pepsina Porci. DOSE— 2 to 4 grains

Since the introduction by Dr. LIONEL BEALE of PEPSINA PORCI,  
Mr. BULLOCK has devoted special attention to its manufacture.

## Bullock's Acid Glycerine of Pepsine. DOSE— 1 to 2 drms.

*Possesses at least three times the digestive power of (and in most cases considerably more than) any other preparation of Pepsine and Glycerine, or fluid form of Pepsine whatever.*

May be prescribed with most substances compatible with Acids.

In 4 oz., 8 oz., and 16 oz. Bottles, and in Bulk.

The published experiments of G. F. DOWDESWELL, Esq., M.A., Cantab., F.C.S., F.L.S., &c., Dr. PAVY, Professor TUSON, the late Professor GARRON, and others, conclusively demonstrate the marked superiority of BULLOCK'S PEPSINA PORCI AND ACID GLYCERINE OF PEPSINE over every other Pepsine, or preparation of Pepsine—ENGLISH, FRENCH, GERMAN, OR AMERICAN.

*\*\* In prescribing either of the above preparations, it is suggested to insert in parentheses, as follows (BULLOCK).*

**J. L. BULLOCK & CO.,**  
**3 Hanover-street, Hanover-square, London, W.**

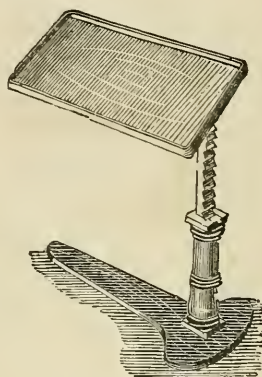
# Leveson & Son's Invalid Furniture.



## READING STAND.

*Brass Column and Bronze Stand.*

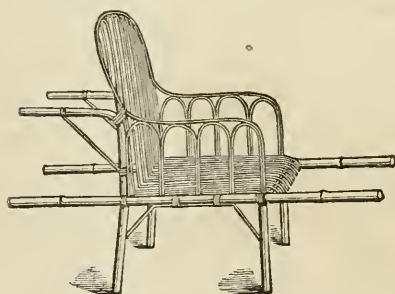
|                      |   |   |   |    |    |   |
|----------------------|---|---|---|----|----|---|
| Polished Walnut Desk | - | - | - | £1 | 1  | 0 |
| Circular Tube        | - | - | - | 0  | 7  | 6 |
| Brass Lamp           | - | - | - | 0  | 10 | 6 |



## BED TABLE.

This can also be used, as shown above, as a Reading or Writing Desk.

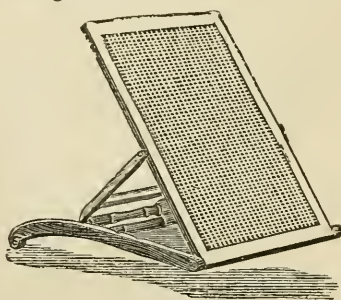
|                           |   |    |   |   |
|---------------------------|---|----|---|---|
| Birch polished any colour | - | £2 | 5 | 0 |
| Walnut, Mahogany, or Oak  | - | 3  | 3 | 0 |



## CARRYING CHAIR.

This light Carrying Chair is made entirely of Cane and Malacca, with Bamboo Handles, and is very comfortable.

Prices - - 21/-, 25/-, 35/-, and 42/-



## BED REST.

From 12/6- to 21/-

Spinal Board, £1, £1 10s.; and £1 15s.  
Spinal Carriages from 8 to 20 Guineas.

} Full particulars on application

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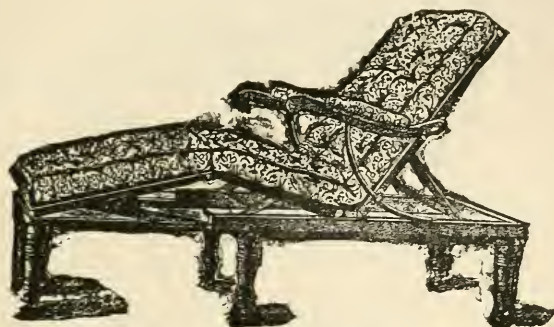
**FANNIN & COMPANY,**  
Surgical Instrument Makers,  
**41 GRAFTON STREET, DUBLIN.**



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# Leveson & Son's Invalid Furniture.

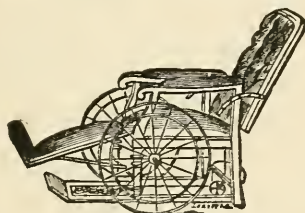
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**ILKLEY COUCH.**

This Couch can be adjusted to any required position. Price from 2 to 10 Guineas.

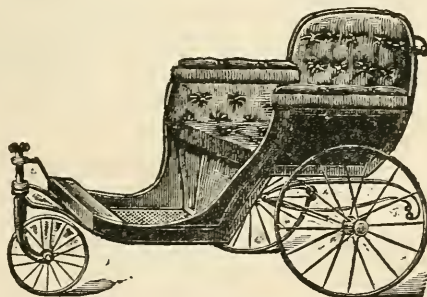
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**MERLIN CHAIR.**

Made of solid wood, Oak or Mahogany, from 4½ to 17 Guineas.

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**INVALID'S CARRIAGE, from £8 8s.**

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WICKER BATH-CHAIRS, from 3 to 6 GUINEAS.  
LEG RESTS, INVALID WATER BEDS and CUSHIONS, AIR CUSHIONS CRUTCHES  
and every description of Surgical and Medical Appliances for Invalids.

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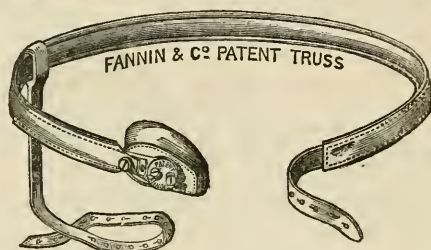
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A Complete Catalogue sent free on application.



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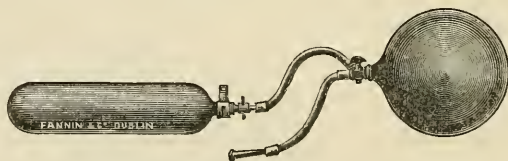
*Price: SINGLE, £1 1s.; DOUBLE, £1 11s. 6d.*

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Apparatus for the inhalation of oxygen gas, as suggested by Dr. Foy.

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FOR THE  
INHALATION OF OXYGEN GAS,  
AND

*Particulars respecting the supply of the Gas.*

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**The Price of the Apparatus is 10/6.**

**The Oxygen Gas** is supplied in cylinders containing 10, 20, and 40 cubic feet, at the rate of 4*d.* and 5*d.* per cubic foot, according to the quantity required. For cases in the country, where a supply cannot be obtained at a moment's notice, FANNIN & Co. recommend that the larger cylinders should be ordered in the first instance. These cylinders are kept in stock, ready for immediate despatch on receipt of a letter or telegram.

**Rate of Hirage of Cylinders.**—Hirage is charged at the rate of 6*d.* per week for the smaller sizes, the larger sizes in proportion. The first six days are allowed free.

The cylinders can be purchased if desired.

**Empty Cylinders.**—It is requested that they should be returned at once.

**CAUTION.**—No oil or grease must on any account be used for the screws or fittings of the cylinders.

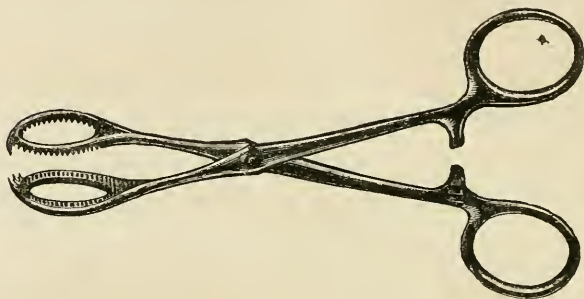
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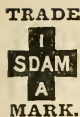
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FOR THE  
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Price 10s. 6d.



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*Surgeon, Adelaide Hospital, Dublin ;*  
*Professor of Anatomy, Royal College of Surgeons, Ireland*  
*Consulting Surgeon, Coombe Hospital, Dublin.”*



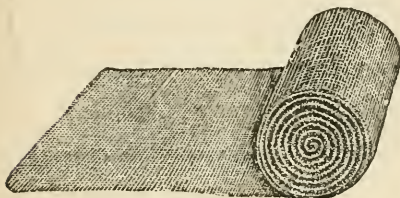
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# Lister's Antiseptic Dressings, OF EVERY DESCRIPTION. GENUINE QUALITY ONLY.

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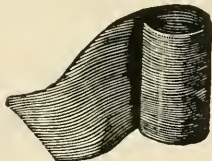
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## DOUBLE CYANIDE GAUZE,

Put up in 100 and 12 yard rolls, and as used in the leading Hospitals at Home and Abroad.

*Also see List.*

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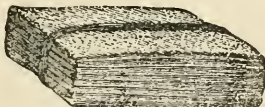
ANTISEPTIC ALEMBROTH BANDAGES.  
POROUS OPEN-WOVE BANDAGES,  
for Plaster of Paris. *Also see Illustrated Price List.*

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Antiseptic (Carb.)  
Ligatures,  
on stopper-fixed reels.  
These are the well-  
known reel-fitted Oc-  
tagons. Each bottle  
contains three distinct  
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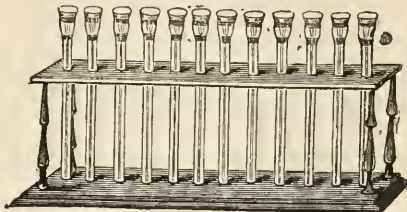
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(The most largely used).

Also Salufer, Sanitas, Carbolic,  
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Wools, &c.

*Also see List.*

## LIGATURES.



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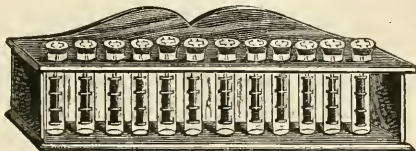
## ANTISEPTIC (Carb.) LIGATURES.

IN STRAIGHT (12 inch) LENGTHS, SUSPENDED BETWEEN  
FIXED PLUGS.

No waste, entanglement, leakage, cracks, incon-  
venience, or soiling of the hands or surroundings.

*Also see List*

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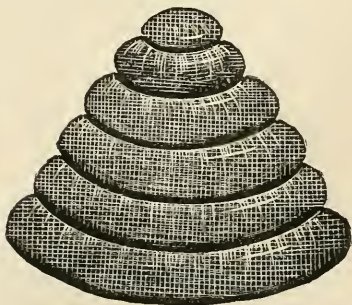
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ON STOPPER-FIXED REELS.

Treble usual quantities. Three distinct sizes in each  
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## TAMPONS.



'Tampons,' 'Plugs,' 'Sponges,' Alem-  
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All Shapes and Sizes. *See List.*

THE WHOLE OF ABOVE ARE KEPT IN STOCK BY

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Price List on application.



# COLEMAN'S WINCARNIS

OR

LIEBIG'S EXTRACT OF MEAT AND MALT WINE.

## WINCARNIS

*Is a New Name Registered  
to prevent fraudulent  
Imitations.*

Extract from Important Unsolicited Testimonial from **G. HOTHER, Esq., M.R.C.S., L.S.A.L.**  
**OVER TWO THOUSAND** have been received from Medical Men.

7 St. John's Terrace, Lewes, October 7th, 1890.

To Messrs. Coleman & Co., Limited.—I have been attending a child, two and a-half years old, suffering from Blood Poisoning; the child was very ill, and refused all kinds of nourishment. I then tried your Liebig's Extract of Meat and Malt Wine Alcoholic, ordered him one tablespoonful every two hours, which he took readily; he had nothing else except medicine for fourteen days. The child is now recovering and takes ordinary food.

Yours truly, **GEO. HOTHER, Surgeon.**

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**Sample Pint Bottle free by Post on receipt of 33 Stamps.**  
" Dozen " " " Rail " 30s.

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Sole Proprietors of "OSMAZON," the New Beef Tea, and also Coleman's Crown Imperial Invalid Stout, which is strongly recommended by the Medical Faculty

**DIABETES.**

**VAN ABBOTT'S GLUTEN BREAD.  
SOYA BREAD, RUSKS, BISCUITS.**

**DIABETES.**

And all suitable Foods for Diabetic Patients, Sweetened with Saccharin or Plain.

**DELICATE**

**VAN ABBOTT'S  
HYPOPHOSPHITE  
OF LIME BISCUITS.**

**CHILDREN.**

**CONSTIPATION. VAN ABBOTT'S  
BRAN BISCUITS.**

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**G. VAN ABBOTT & SONS,**

*Diabetic, Invalid, and Infant Dietetic Depot,*

6 Duke-street, Mansions, Grosvenor-square, W. Established 1859.

**Samples Free to the Profession.**

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## "PUMILINE" GLOBULES.

1/6 per Box. One Minim.

For Internal Use.

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1/4 per Bottle.

For Baths and Poultices.

## "PUMILINE" SOAP.

6. & 1/- per Tablet.

Superfatted Hygienic Toilet.

## "PUMILINE" (Antiseptic) WOOL.

For Otorrhœa (Dr. Ward Cousin's Formula).

Boxes, 1/6.

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1 1/4 & 2/9 per Pot.

For Skin Disease, Eczema, &c.

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## "PUMILINE" (Antiseptic) WOOL.

2/- per Sheet (36x24).

## "PUMILINE" ESSENCE,

Both as an inhalant and adminis-

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most valuable in all

## Throat and Lung Affections.

It is prescribed by medical men

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## INFLUENZA,

With admirable results.

1/6 and 2/6 per Bottle.

## "PUMILINE"

## Pocket Dry Inhaler.

Most Effective and Convenient.

Complete, with vial of "Pumiline" Essence, 1/6.

# "PEPSALIA"

*A Complete and Natural Digestive Salt, super-acidified with free Hydrochloric Acid, and containing ferments capable of converting into peptones 2,500 times their weight of food.*

"PEPSALIA" offers the following advantages:—

- (a) Taken at meals it acts as a saline condiment, and is thoroughly mixed with the food during mastication.
- (b) It comprises all the factors of digestion, and not only facilitates but effects digestion.
- (c) It never irritates nor gives rise to discomfort.
- (d) It is powerful, yet harmless; sufficient for the purpose, yet never excessive. A moderate quantity is enough to effect digestion, but an excess does not vitiate the process.

In cases of Dyspepsia due to functional paresis, one trial of "PEPSALIA" will establish its value.

Dose—One saltspoonful with each meal.

In Bottles 1s., 2s., & 5s. each, from Chemists, or from

**G. & G. STERN, 62 Gray's Inn Road, London.**

SAMPLES FREE TO MEDICAL MEN ON APPLICATION.

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Prepared from COCA LEAVES (Erythroxylon Coca).

In Bottles, 36/- per dozen.

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"SYRUP HYPOPHOSPH. CO. (LORIMER)."

*Among the principal merits of this preparation may be enumerated:—*

1st.—It is not a quack preparation or secret nostrum; the formula is printed on every label, and the price is moderate.

2nd.—The formula is original, founded upon scientific principles, and has stood the test of practical experience. There is no other preparation of the hypophosphites which contains so large a proportion (about six grains to the fluid drachm) of the salts employed.

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4th.—The formula being stated on every label, the physician is enabled to *vary the dose* according to the requirements or idiosyncrasies of the individual case.

5th.—It is pleasant to take, and can readily be prescribed for children.

6th.—It is neutral, or very slightly alkaline, and can therefore be taken without ill effect by persons afflicted with sensitive stomachs, which would probably reject acid or strongly alkaline preparations.

Protected by Her Majesty's



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(Oleum Iodi).

FOR OUTWARD APPLICATION ONLY.

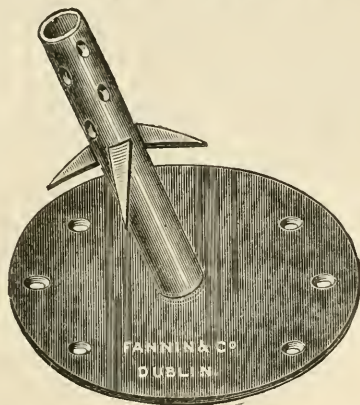
ADVANTAGES.—Is readily absorbed. Does not stain the skin. May be applied to the most delicate skin without irritation.

In 16-oz. Bottles, 6/- each.

*Price List of Lorimer's Specialities sent on application.*

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MANUFACTURERS OF  
**ANTISEPTIC DRESSINGS and APPLIANCES,**

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Materials used in the LISTERIAN System of SURGERY, and prepared from  
the Special Formulæ of Sir Joseph Lister—

**Carbolized Gauze,**  
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(The most recently introduced  
LISTERIAN Dressing)

**Iodoform Gauze,**  
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**Boric Lint,**  
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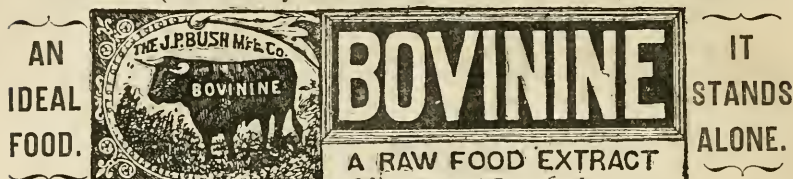
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THE VITAL PRINCIPLES OF BEEF CONCENTRATED.

CONTAINING 20 PER CENT. OF COAGULABLE ALBUMEN.

The most CONCENTRATED &amp; NUTRITIOUS FOOD extant.

Prescribed by the PROFESSION Everywhere,

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**MATERIAL EXCELLENCE,  
CLINICAL EFFICIENCY,  
GREAT ECONOMY.**

SAMPLES free to the Medical Profession on application to the Company.

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*Sold by Chemists. In Bottles, 12 oz., 4s. 6d.; 6 oz., 2s. 9d.***DIABETES.**

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Recommended by Dr. PAVY.

*Every Variety of Gluten, Almond Bran, Chocolate Cocoanut for  
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SEND FOR PRICE LISTS.

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## FOR INFANTS, CHILDREN, AND INVALIDS.

This delicious and highly nutritive Food was awarded the **GOLD MEDAL** at the International Health Exhibition, London, and has since received a High Award at every Exhibition at which it has been shown.

**BENGER'S FOOD** is well known to leading medical men, and is recommended by them.

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"Benger's Food is a preparation devised on original lines, and which we can speak of in the highest terms. . . . Infants do remarkably well on it, and it is most suitable for many conditions in adults and old people. Amongst other things, we may mention that this food has been found extremely useful in the Summer Diarrhoea met with in some of our Colonies, where the distaste for food and difficulty of digestion are very marked. There is certainly a great future before it."

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From an Eminent Surgeon.

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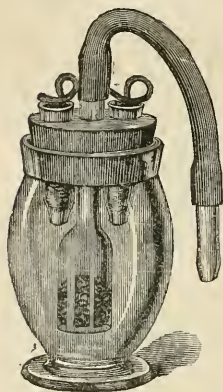
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